Abstract should include the following subheads as appropriate: Title, Summary, Objective, Sample, Methods, Results, Conclusions. Limit one page. Formatting follows:

**Title:** Process Evaluation of a Heart Disease Lifestyle Intervention in Underserved South Asian Communities.

**Introduction:** Process evaluations implemented in randomized clinical trials (RCT) are critical to results interpretation, understanding patient-centered outcomes, and improving interventions for larger scale dissemination and implementation. We assessed participant experiences and feedback during a pilot RCT of a community-based, culturally-tailored cardiovascular disease (CVD) prevention intervention for South Asian (SA) immigrants.

**Methods:** Trained bilingual study staff used a semi-structured interview guide to conduct telephone interviews, in English and Hindi, with intervention participants. Interviews focused on participants’ perceptions (acceptability, satisfaction, challenges, and benefits) of the CVD prevention intervention and its components, which included group classes and telephone counseling to initiate and maintain healthy behaviors. Audio recordings of telephone interviews were translated, transcribed and coded by three independent reviewers.

**Sample:** Randomly selected twenty intervention group participants out of a total of 31.

**Results:** Overall, attendance at the 6 group classes was on average, 78%. However, individual make-up sessions were scheduled, so all participants achieved 100% attendance. Participants found experiential activities (e.g. grocery store trip, understanding nutrition labels, self-monitoring with pedometers, and incorporating physical activity into daily routines) to be most helpful because they learned how to incorporate and maintain these behaviors in their daily lives. For example, one participant said, “Even when I went to Pakistan for 3 months, and since 6 months I have the same weight, all due to these classes. I would remember immediately what was not good for us.” Participants stressed the importance of having bi-lingual educators who were from a culturally-concordant background, “She guided me very well as if I am from a close family.” Participants said that the follow-up telephone counseling helped with maintaining healthy lifestyle goals, “The phone calls were very good because we would stay alert as the call would come, and we would promise our self that we will do it.” Participant said that a family-based, rather than an individual-level intervention may be more effective in this community, “We have been telling everything we learned to our families, but opportunity should be available for the family to attend these classes.” Additionally, some female participants said they preferred women-only classes when learning about exercise, “We should have the ladies and men separate during exercise because it is a problem for the ladies and we do not feel comfortable doing exercise together.”

**Conclusion:** South Asian immigrants had a positive experience as participants in a community-based, culturally-salient CVD prevention intervention. The effectiveness of this intervention may be improved by incorporating the family. Cultural and linguistic concordance of interventionists and understanding cultural values are important when developing health interventions for South Asians.

(In order to be considered for inclusion in the 2014 Research Day program, **ALL** abstracts must be in Arial, 11 pt font, and must fit one page. Any abstract exceeding criteria will be sent back for revision. Thank you.)
Title: Development of a Low-Cost Dilatancy-Based System for Orthotic Fabrication

Summary:
Current methods for taking impressions for orthotic devices include plaster bandage, fiberglass, and laser-optical scanner. This poster will present an alternative impression and fabrication technique for foot orthosis, ankle-foot orthosis, knee-ankle-foot orthosis, and thoracolumbar-sacral orthosis that utilizes the dilatancy principle initially investigated in the 1940’s by WJ Mead. To date, the foot orthosis and the ankle-foot orthosis systems have been tested on both able-bodied subjects and subjects with impairment. The knee-ankle-foot orthosis and the thoracolumbar-sacral orthosis systems are currently still being developed.

Objective: To create a potentially better, cheaper, faster, and greener approach for cost-effective services in both developing and developed countries.

Methods:
This development project consists of 3 stages: pre-clinical testing, testing on able-bodied subjects, and testing on subjects with impairment. During the pre-clinical stage, each system is tested on a plaster model and measurements are taken to confirm accuracy. After testing on a plaster model, each system is then tested on able-bodied subjects. For each subject, an impression is taken, the impression is converted to a positive sand model, measurements of the positive sand model are taken to confirm accuracy, reliefs for bony prominences are applied to the positive sand model, the orthosis is fabricated, and the finished device is fit to the test subject. Following these steps, each test subject then completes a two question survey asking them to rate the comfort of both the impression process and fit of the fabricated orthosis. Feedback from the test subjects and the researchers are then considered and changes are made to the system accordingly. After testing each system on a minimum of 3 able-bodied subjects, each system is then tested on a minimum of 3 subjects with impairment to determine the comfort level for impression procedure and fit of the orthosis.

Results:

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<tr>
<th>ABLE-BODIED SUBJECTS</th>
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<th>AFO</th>
<th>KAFO</th>
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<tr>
<td># of Devices</td>
<td>10</td>
<td>10</td>
<td>12</td>
<td>0</td>
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<tr>
<td>Avg Rating</td>
<td>0</td>
<td>1.0</td>
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<tr>
<th>SUBJECTS WITH IMPAIRMENT</th>
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<tr>
<td># of Devices</td>
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Note: 0 - most comfortable; 10 - least comfortable

Conclusion: These plaster-less systems are inexpensive to set up and maintain, light-weight and portable, clean to use, and create minimal waste. In addition they enable a practitioner to quickly take an impression for and fabricate devices in a short period of time during a single clinic visit by the patient. The technology will be beneficial for services in resource-limited areas.
Title: HIV Prevention in the Digital Age: Using the Translational Research Cycle and Engaging Community Partnerships to Develop an Online HIV Prevention Program

SUMMARY: Young men who have sex with men (YMSM) face an increased risk for HIV infection. To address the disparity in the HIV epidemic for these men, the IMPACT Program developed the Keep It Up! (KIU!) online HIV prevention program within the framework of the translational research cycle.

OBJECTIVE: This presentation describes KIU!'s development in the translational research cycle, highlights lessons learned in our academic-community collaborations, and discusses future directions of KIU! regarding late translation, dissemination, and adoption.

METHODS: After reviewing and conducting basic science on HIV epidemiology and the mechanisms of health and disease, the IMPACT Program began early translational research via a pilot study with ethnically diverse YMSM at COH - a local LGBTQ community center. The pilot study informed intervention acceptability and feasibility. After successful pilot testing, COH implemented KIU! as a service project through funding from CDPH and is currently undergoing evaluation by the COH and IMPACT team.

RESULTS: Academic-community collaborations in research are vital to the successful enactment of the translational research cycle and our pilot study data revealed that KIU! reduced HIV risk among YMSM.

CONCLUSIONS: To facilitate the dissemination of our evidence-based HIV prevention program, we will continue the final steps of the translational research cycle by refining the intervention based on evaluation data and participant/community input, in addition to up-grading and scaling-up the intervention. Our ultimate goal is the adoption of KIU! by community health providers, patients, and the public to ensure equality in access to healthcare and prevention resources.
Title: The Delivery of Heavy Menstrual Bleeding Services in England and Wales After Publication of National Guidelines: A Survey of Hospitals

Summary: Heavy menstrual bleeding (HMB) affects approximately 5% to 30% of reproductive aged women and represents the fourth most common cause for referral to gynaecological services in the United Kingdom. In 2007-2008, the National Institute for Health and Clinical Excellence (NICE) and the Royal College of Obstetricians and Gynaecologists (RCOG) published guidelines for the management and care of women with HMB in response to high regional service variation across the UK. This study reports findings from a survey of National Health Service (NHS) hospitals in England and Wales conducted in 2010 regarding adherence to national HMB guidelines.

Objective: To assess whether outpatient care for women with HMB in England and Wales adhered to established national guidelines

Sample: All 221 NHS hospitals of 154 acute NHS trusts in England and Wales providing secondary care through outpatient gynaecology departments from June to September 2010

Methods: A survey questionnaire addressing HMB national guidelines was developed and pilot tested for paper- and web-based completion. Surveys were distributed to all NHS hospitals through their Clinical Directors of Obstetrics and Gynaecology or Clinical Audit Departments. Survey questions addressed four guideline domains: service delivery, referrals to secondary care, information for patients, and health-related quality of life assessment. Responses were summarized using descriptive statistics.

Results: The response rate was 100% with a high data completeness rate (1-3% missing values). Respondents reported having access to diagnostic facilities at the hospital, including endometrial biopsy (98%), ultrasound (80%), and hysteroscopy (87%). All hospitals offered endometrial ablation and hysterectomy as surgical options. 38% of hospitals run a dedicated HMB clinic, with 87% of HMB clinics described as “one-stop”, where diagnosis and treatment plans are provided in the same visit. Responses followed national recommendations for investigations considered during initial consultation for women with HMB. Patient information provided varied across respondents, with 76% offering an information leaflet, 8% referring to a website, and 20% failing to provide written information. Only 30% of respondents reported the presence of a local written protocol for HMB referral and management.

Conclusions: Most NHS hospitals in England and Wales meet diagnostic and therapeutic recommendations in the national guidelines. However, a minority of hospitals reported having key systems established, including local protocols regarding referral and management of patients and one-stop menstrual disorders clinics to streamline care and improve the care experience. Conclusions to this study offer a national picture of the extent of coverage meeting specified guidelines for HMB. Hospital reports will be supplemented by patient-reported information as part of the National HMB Audit, a prospective national clinical audit of women who visit outpatient gynaecology departments of NHS hospitals.
**Title:** Domestic Homicide: Neuropsychological Profiles of Murderers Who Kill Family Members and Intimate Partners

**Summary:** Domestic murder is the most extreme form of domestic violence, and one of the most common types of homicide in the U.S., inflicting a death toll of nearly 15,000 people in 2012 alone. Unfortunately, very little is known regarding the demographic and psychiatric correlates of domestic homicide, and no previous study has comprehensively examined performance of domestic homicide offenders on standard neuropsychological tests.

**Objective:** To examine group differences between individuals who committed spontaneous domestic homicide (SDH) and those who committed nondomestic homicide (NDH), in terms of demographics, psychiatric history, crime characteristics, and performance on clinically validated cognitive measures of intelligence, attention, executive functions, memory, and language.

**Sample:** N = 153 men and women, who were convicted of first-degree murder in IL and MO, and underwent forensic neuropsychological evaluation in the setting of fitness to stand trial, criminal responsibility, or sentencing. Participants were predominately African American (65%), male (88%), and had an average of 11 years of education. Age ranged 15 - 67 (M=33.06). A striking proportion (83.7%) of the sample reported history of at least one head trauma. Over one-half (52.9%) of the sample reported history of special education. Most (77.8%) of the sample reported lifetime history of illicit drug use, 45.8% carried a psychiatric diagnosis (most commonly a psychotic disorder), and 58.2% had at least one prior felony conviction or arrest for a violent crime.

**Methods:** Using the criteria outlined in the Crime Classification Manual, 33% and 61% of the sample were classified as SDH and NDH, respectively. The remaining 6% were classified as staged domestic homicide and were excluded from group analyses. Group differences were examined using chi-squared, parametric Student’s t, and nonparametric Mann-Whitney U tests, were statistically appropriate.

**Results:** No significant group differences were observed with regard to demographic variables. Offenders who committed spontaneous domestic homicide were more likely to carry a diagnosis of a psychotic disorder, and to have been prescribed an antipsychotic or antidepressant medication. Conversely, they were less likely to carry a diagnosis of antisocial personality disorder, and to have history of prior felony convictions. With regard to homicide characteristics, the mean number of victims was lower for the SDH than the NDH group. Only 14% of SDH offenders used a firearm in the commission of the crime, compared to 59% of NDH offenders. Analysis of neurocognitive test performance revealed marginally lower mean IQ scores in SDH offenders (FSIQ=79.86) compared to NDH offenders (FSIQ=83.44). The SDH group showed significantly poorer performance on selective tests of attention, executive functions, and verbal memory, but not measures of language.

**Conclusions:** This is the first study, to our knowledge, to demonstrate significant differences in psychiatric history, crime characteristics, and neurocognitive performance in a single sample of offenders who committed spontaneous domestic versus nondomestic homicide. As a group, SDH offenders were more psychiatrically and cognitively impaired, but less violent. These findings corroborate the notion that spontaneous domestic homicide may represent a discernable criminological phenotype.
Title: Murder and Psychosis: Neuropsychological Profiles of Homicide Offenders with Schizophrenia

Summary: Neurocognitive dysfunction, a core feature of schizophrenia, is thought to contribute to the impulsive violent aggression manifested by some individuals with schizophrenia, particularly those who commit homicide. However, little is known about how homicidal individuals with schizophrenia perform on neuropsychological measures, or how those with and without violence-related psychotic symptoms differ on clinical, criminal, and neuropsychological variables.

Objective: Study objective was twofold, 1) to characterize the neuropsychological profile of individuals with schizophrenia who commit homicide and 2) to compare clinical and criminological features and performance on neuropsychological measures between those with and without God/Satan-themed psychotic symptoms.

Sample: Participants were 24 men and 1 woman diagnosed with schizophrenia and charged with first-degree-murder. All participants were criminal defendants detained in the Cook County Department of Corrections, Chicago, Illinois.

Methods: Participants underwent neuropsychological evaluations as part of their forensic examinations and successfully completed at least 3 objective symptom validity tests, demonstrating sufficient test-taking effort. Criminological variables were established based on information obtained from documented criminal histories, police reports, autopsy reports, crime scene photos, court documents, interviews of collateral sources, and attorneys.

Results: The sample was characterized by extensive neurocognitive impairment, involving executive dysfunction (78%), memory dysfunction (70%), and attentional dysfunction (50%). The sample was characterized by a high rate of psychotic symptoms involving God/Satan-themes. Those with God/Satan-themed psychotic symptoms demonstrated better neurocognitive functioning on measures of language, attention, visuospatial abilities, learning and memory, and verbal abstract reasoning, compared to defendants with nonreligious psychotic content. Majority of offenders with God/Satan-themed psychotic symptoms experienced command hallucinations and committed premeditated acts of violence.

Conclusions: Findings from the current study indicate that impaired cognition may play an important role in the commission of homicide by individuals with schizophrenia. The interaction between neurocognition and God/Satan psychotic content may create a unique pathway to violence perpetration, with implications for treatment and risk-prevention.
Objective: To examine the demographic, criminological, and neuropsychological characteristics of female homicide murderers.

Sample: Participants were 24 women charged with and/or convicted of first-degree murder in Illinois and Missouri. Collectively, these individuals were charged with or convicted of the murders of 43 people. All were referred for a neuropsychological evaluation by attorneys or the court in relation to one or more of the following legal issues: fitness to stand trial, sanity, and mitigating factors.

Methods: Information regarding education, medical history, psychiatric history, and criminal history were obtained from school, medical, psychiatric, and law enforcement/correctional records. All participants underwent a clinical interview and were administered a battery of standardized neuropsychological tests. Inclusion in the study required valid performance on at least three symptom validity measures, including both freestanding and embedded measures of test-taking effort.

Results: The sample was predominantly African American (63%), with a mean age of 28. Mean years of education was 10. Most (83%) of the sample reported history of physical or sexual abuse, and 67% reported prior head trauma. The sample was also characterized by extremely elevated rates of psychopathology: 42% had a neurodevelopmental disorder (i.e., MR, LD, or ADHD); 63% had history of alcohol abuse; 58% had history of drug abuse; 33% had a history of depression; 29% had a history of psychosis; 25% had history of bipolar disorder; 38% had a cluster B personality disorder. Approximately one-half of participants had been previously charged with a violent crime. Homicides were classified as motivated by criminal enterprise or personal cause. The majority of the sample committed single homicides (71%). Victims included 11 children and 32 adults. In relation to perpetrators, victims were: friend/acquaintance (38%), family member or intimate partner (29%), stranger (25%), and other relative (8%). Most murders (58%) were classified as impulsive acts as opposed to premeditated, and 55% of offenders were under the influence of drugs or alcohol at the time of the crime. Neuropsychological profiles involved the following: Mean Full Scale IQ = 81 (range of 58-105); visuospatial and constructional abilities were impaired in 45% of the sample; verbal memory was impaired in 45% of the sample; visual-nonverbal memory was impaired in 40% of the sample; 40% of the sample manifested executive dysfunction and 31% manifested attentional dysfunction.

Conclusions: These results corroborate previous findings of sub-average intellectual functioning and extensive neurocognitive dysfunction among violent criminals. Female murderers were characterized by a high rate of neurodevelopmental disorders and psychopathology, including substance abuse, mood disorders, psychotic disorders, and personality disorders. A history of recurrent physical or sexual abuse was very common. The findings suggest that the combined effects of neurocognitive dysfunction, psychopathology and a history of violent victimization are major contributing factors to why women kill. These findings highlight the importance of considering neurocognitive and psychiatric variables as mitigating factors within the criminal justice system.
Title: Impact of mHealth intervention targeting physical activity and sedentary behavior on change in physical activity and self-efficacy

Background: Increasing physical activity reduces the risk of multiple illnesses (i.e. obesity/cancer) and decreasing sedentary leisure time allows more time for physical activity. Self-efficacy influences the amount of effort and persistence put into behavioral change, increasing the odds that change will be maintained.

Methods: In the Make Better Choices study, 204 adults were randomized to four treatment conditions and assessed before and after a 3 week intervention that required them to change activity (increase activity or reduce sedentary leisure time) and food (reduce saturated fat or increase fruit and vegetable consumption) behavior by using mobile self-monitoring technology and personalized phone coaching. Repeated measures ANOVAs tested the effect of treatment on change in actual physical activity and sedentary behaviors, measured by accelerometers, as well as change in self-efficacy for these behaviors, measured by self-report.

Results: A significant activity treatment x time interaction showed that those coached to increase activity did so to a greater degree than those told to reduce sedentary leisure time (F(1,187)= 12.29, p=0.00) and vice versa (F(1,197)=20.54, p=0.00). Self-efficacy for physical activity showed a treatment x time interaction (F(1,182)=3.981, p=0.048) such that it increased for those coached to increase activity, but decreased for those coached to decrease sedentary leisure time.

Conclusion: Those coached to exercise felt more confident they could continue to exercise post intervention, while those told to watch less TV felt less sure they would be able to exercise post intervention. Results are consistent with Baumeister’s self-regulatory model, which posits that exerting self-control to inhibit a tempting behavior (watching television) depletes a limited resource, reducing the strength available for further self-regulatory efforts (exercising). For adults to initiate and maintain a more active lifestyle, physical activity needs to be targeted directly; decreasing sedentary leisure is insufficient.
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Title: An Interim Report on a Novel, Student-Led Approach to Ambulatory Quality Improvement  

Background  
The Education-Centered Medical Home (ECMH) is an innovative program at Northwestern University Feinberg School of Medicine (FSM) that places medical students into primary care clinics organized around the Patient Centered Medical Home (PCMH) model. The ECMH is a four year longitudinal element of the FSM Curriculum that engages students in meaningful clinical learning in real clinical contexts with a panel of high risk patients. The ECMH curriculum has been operational for the past three years and currently includes more than 250 medical students at 16 clinics across the city of Chicago. Each clinic includes four students from each year of medical school (16 students per clinic) who are assigned to care for a panel of medically-complex patients. The students perform the role of clinicians and care coordinators, and work to develop long-term patient-physician relationships with their patients.

Quality Measurement  
One of the overarching principles of the ECMH program is quality improvement. Students are taught basic principles about quality metrics, measurement, and improvement in monthly ECMH grand rounds sessions and in the FSM curriculum. Students perform quarterly chart abstractions to assess adherence with over 20 nationally used quality metrics and then receive a quarterly quality “report card” with a summary of their clinic’s overall performance on meeting those measures. At each clinic visit, one student serves as “quality manager” and is responsible for quality metrics compliance for the patients seen in the clinic that day.

Current Initiative  
After a one-year trial of student-led collection of quality measures, validation of the data, and development of a reliable reporting system, we began to distribute quality metric information to each ECMH for a subset of their patients. Each clinic was then assigned to conduct a quality improvement (QI) project using the define, measure, assess, improve, control (DMAIC) methodology. Clinics were free to choose a structure, process, or outcome to improve, and were not limited to measures from the quality report card. The timeline for each QI project was one academic year, with regular reporting of interval progress. Student driven DMAIC projects were variable in their focus, scope, and depth. Fifteen projects included process measures, while six projects included outcome measures (five projects contained both process and outcome measures). Common QI measures which teams focused on included: BMI (3), diabetes care (2) and vaccination rates (2). Five teams chose to use the EHR to identify high risk populations in need of additional outreach. Unique projects included: a focus on “team educator” logistics, intra-clinic closed-loop communication strategies, tying reminder calls with clinic ‘no-show’ rates, and measuring patient cycle/wait times. Interim progress reports are expected by mid-February, with projects completed by May.

Conclusions and Future Directions  
Student-led quality measurement is reliable and feasible. One goal of the ECMH program is to improve care for high-risk patients in an ambulatory environment. This program will allow us to measure the impact of QI projects for our patients and demonstrate student-led improvement in care delivery as a consequence of the ECMH curriculum’s unique methodology.
Title: The Prevalence of Alcohol and Drug Use Disorders After Youth Leave Detention: A 12-Year Prospective Longitudinal Study

Summary: This study examines the prevalence of substance use disorders in juvenile delinquents up to 12 years after detention.

Objective: Substance use disorders are prevalent among detained youth. However, few studies examine the course of these disorders over time after youth leave detention. This study addresses the limitations of prior investigations and describes the course of substance use disorders as delinquent youth age into young adults.

Sample: Study participants were drawn from the Northwestern Juvenile Project (NJP), a longitudinal study of mental health needs and outcomes of detained youth. Participants were randomly sampled from the Cook County Juvenile Temporary Detention Center. To ensure adequate representation of key subgroups, we stratified our sample by sex, race/ethnicity (African American, non-Hispanic white, Hispanic, other), age (10-13 years or ≥14 years), and legal status (processed in juvenile or adult court).

Methods: Lifetime and current (past year) disorders were measured using the Diagnostic Interview Schedule for Children, version 2.3 (DISC 2.3), and the Diagnostic Interview Schedule, version IV (DIS-IV). We measured the following substance use disorders: alcohol, marijuana, cocaine, hallucinogens/PCP, opiates, amphetamines, inhalants, sedatives, and other unspecified drugs. Participants were interviewed up to nine times in the 12 years following detention. Because access to substances is restricted in jails and prisons, analyses adjust for time spent incarcerated during the follow-up period.

Results: Twelve years after detention (mean age = 27 years), approximately 90% of the sample had ever had a substance use disorder. Alcohol and marijuana use disorders were the most common disorders in the sample; lifetime prevalence rates were 77% and 83%, respectively. Lifetime prevalence of drug use disorders other than alcohol and marijuana affected over one fifth of the sample (22.5%). Prevalence rates were higher among males than in females. Non-Hispanic whites had the highest rates of lifetime substance use disorders (92%), followed by Hispanics (84%) and African Americans (75%). At baseline, approximately 50% of the sample had a current substance use disorder; twelve years later, prevalence had dropped to 20%. Generalized Estimating Equations (GEEs) show that the prevalence of current alcohol and marijuana use disorders significantly decreased over time. Prevalence among females decreased more quickly than among males in the first three years after baseline. Prevalence rates of other drug use disorders did not change over the course of the study.

Conclusions: Lifetime rates of substance use disorders are high in juvenile detainees. However, twelve years after baseline, prevalence of alcohol use disorders were similar to the general population. Even after adjusting for incarceration, African Americans had lower prevalence rates than other racial/ethnic groups. Despite their low rates of substance use disorders, African Americans are disproportionately incarcerated for drug crimes. These findings inform the development of targeted interventions as well as public policy regarding the mental health needs of former detainees.
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Title: A Mobile Based Application for Implementing the Good Behavior Game in Schools

Summary: Prevention research has primarily focused on the development of mobile based applications (apps) for end users with less focus on app development for those who carry-out evidence based interventions. The use of mobile based apps in the delivery of evidence based interventions can have an impact on the scalability of an intervention, as well as the fidelity, monitoring, and overall quality of implementation. We present a proof of concept of a mobile base app to carry out and monitor fidelity of the Good Behavior Game (GBG). The Good Behavior Game is a 1st and 2nd grade teacher classroom management program that has demonstrated impact on long-term drug abuse, sexual risk behavior, delinquency, and suicidal behavior by socializing children to the student role and reducing aggressive, disruptive behaviors

Objective: Rapid prototyping of a mobile based app for the delivery and monitoring of the GBG.

Methods/Results: The GBG app was produced through a partnership between android developers and Ce-PIM, organized around the American Institutes for Research GBG manual. The GBG app replicates and simplifies a number of steps in this manual. First, it allocates children into balanced teams and recording results of each game played. Second, the app records audio from teachers when a violation is reported or for duration of the entire game. The third component is the database system that collects this information and makes it available to coaches as well machine learning algorithms to feedback fidelity and monitoring information to teachers and schools.

Results: We will report how coaches and teachers experience the GBG app in GBG trainings, use in classrooms, and in coach led fidelity and monitoring.
Abstract should include the following subheads as appropriate: Title, Summary, Objective, Sample, Methods, Results, Conclusions. Limit one page. Formatting follows:

Title: Adult Social Role Performance in Delinquent Youth After Detention: A 12-Year Longitudinal Study

Summary: This study examines psychosocial outcomes as delinquent youth transition to adulthood. We assess prevalence and demographic differences in adult social role performance. Data are drawn from the Northwestern Juvenile Project, a longitudinal study of detained youth. We assess a range of outcomes reflecting important facets of adult functioning.

Objective: This study addresses the following research questions: 1) What is the prevalence of adult social role outcomes among delinquent youth, 12 years after detention? and 2) Are there gender and racial/ethnic differences in the prevalence of adult social role outcomes?

Sample: Data were from the Northwestern Juvenile Project, a longitudinal study of detained youth. We used a stratified random sample of 1829 youth recruited between 1995 and 1998 at the Cook County Juvenile Temporary Detention Center in Chicago, Illinois. The current study used data from the 12-year follow-up interview, n=1509, representing 88% of those still alive at the time their interviews were due. At follow-up, participants were 22 to 32 years old, 62% male (n=934); 58% African American (n=875), 15% non-Hispanic white (n=225), 27% Hispanic (n=407), and <1% other race/ethnicity (n=2).

Methods: Participants were re-interviewed 12 years after their baseline interviews, either face-to-face or over the phone, regardless of where they were living. We estimated prevalence rates of the following outcomes: residential independence, employment, educational attainment, marriage, cohabiting relationships, parenthood, caretaking, incarceration, criminal activity, and substance use disorder. We used logistic regression to examine gender and racial/ethnic differences in these outcomes. We examined prevalence and demographic differences in outcomes for the entire sample and for the subsample of participants living in the community (i.e. excluding incarcerated participants, whose opportunities to fulfill certain roles were limited).

Results: Of our participants, 36% were living independently; 30% were employed, and 52% had obtained a GED or high school diploma. Although 88% of participants had never been married, one-third was living with a significant other. Over three-quarters (78%) of participants were biological parents, although only 23% were caretaking their children. One-fifth of the sample (19%) had been criminally active in the past 3 months, and over half (55%) had been incarcerated in the past year. One-fifth had a substance use disorder in the past year. Females generally achieved successful outcomes more often than males. Non-Hispanic white participants were more successful than African American participants and, to a lesser extent, than Hispanic participants on many outcomes.

Discussion: Youth with juvenile justice involvement struggle to fulfill adult social roles in every area assessed. Minority males had the lowest rates of achieving adult social roles. Youth need programs that facilitate job skills, foster healthy interpersonal relationships, and help them to avoid returning to a criminal lifestyle after they leave detention.
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Title: Delivering video patient education from the EHR: Promises and Pitfalls

Summary: Alerts triggered by content in patients’ electronic health record (EHR) are used regularly to prompt providers to improve the quality of care. These alerts can be used to deliver educational content to specific patients at the point of care. We implemented an alert for licensed practical nurses (LPNs) and medical assistants (MAs), prompting them to show a video to patients eligible for pneumococcal vaccination (PnVx) while they waited for their primary care provider (PCP) to enter the exam room.

Objective: We report on lessons learned from implementing this EHR-based alert for nursing staff to show patients an educational video during their clinic visit.

Sample: All LPNs and MAs (n=15) at the Northwestern Medical Faculty Foundation (NMFF) General Internal Medicine (GIM) clinic received the point-of-care alert for eligible patients, including those who were 65 or 66 years old, had no documentation of PnVx receipt or refusal, and had no diagnoses that counter indicated getting the vaccine.

Methods: The PnVx educational video Best Practice Alert (BPA) was implemented using the Epic EHR. We designed and built the alert using a team of computer programmers, technical support specialists, and clinical and communication experts. PCPs provided consent for their patients to be included in this feasibility study. We trained LPNs and MAs to launch the video from the EHR when the alert appeared, and the PnVx BPA was then activated practice-wide. After 3 months, nurses participated in individual interviews and PCPs received a web-based survey. Patients completed a telephone survey to assess their perceptions toward being shown a video at the point of care, as well as their thoughts on pneumonia and pneumococcal vaccination (on a Likert scale where 1 = Strongly Disagree and 5 = Strongly Agree).

Results: We encountered technical barriers to successful implementation. These included hardware problems, such as the need for uniform monitor resolution and lack of sound capability, and software problems, including failure of the video to function across multiple operating systems. Additionally, to retain Epic security and account for the fact that LPNs and MAs had varied workflows, the BPA required several decision points. Despite these challenges, overall feedback to the alert was positive. Patients (n=38) perceived the video as easy to understand (M = 4.76, sd = 0.71) and informative (M = 4.42, sd = 0.68). PCPs (n=30) did not perceive a negative impact on their workflow, nor did they believe the addition of the PnVx BPA delayed the rooming process. LPNs and MAs (n=10) had varying responses to the PnVx BPA; some perceived it to be a minor task benefitting patients, while others reported that it was overly complicated and bothersome.

Conclusions: At a site using provider alerts, implementing a clinical decision support-triggered educational video identified unanticipated obstacles. While many of the technical challenges were surmountable, seamless integration of the alert into LPN/MA workflow has been challenging. Primary obstacles are the several steps required to launch the video and the absence of a clinic-wide incentive or policy supporting this effort. Further research is needed to determine the best ways to involve the entire medical team in patient care and assess the impact of this point-of-care intervention on uptake of vaccination and other preventive health services.
Title: Women With Chronic Rhinosinusitis with Nasal Polyps Have More Severe Disease Than Men.

Rationale: Up to 50% of patients with chronic rhinosinusitis (CRS) have comorbid asthma, and we have reported that a subset of CRS patients who have nasal polyps (CRSwNP) have elevated autoantigen-specific antibodies within their nasal polyps (NP). While increases in the prevalence and/or severity of asthma and autoimmunity in women are well characterized, it is not known whether CRSwNP demonstrates a similar trend. We sought to determine whether CRSwNP demonstrated sex-specific differences in prevalence and/or severity.

Methods: Using a prospectively collected database of patients undergoing nasal surgery (n>1200), we evaluated the effect of sex on the prevalence of CRSwNP, aspirin sensitivity and asthma status. We further compared levels of eosinophil cationic protein (ECP) and anti-dsDNA antibodies in NP extracts from men and women by ELISA.

Results: Although women comprised about 50% of control and CRS patients without NP (CRSsNP), a significantly smaller proportion of CRSwNP patients were female (35%, p<0.05). Interestingly, women with CRSwNP were more likely to have comorbid asthma (p<0.01), and 65% of patients with aspirin-exacerbated respiratory disease (CRSwNP plus asthma and aspirin sensitivity) were women (p<0.001). Asthmatic women with CRSwNP had the highest levels of autoantigen-specific IgG (p<0.01) and ECP (p<0.05), and were more likely to have revision surgeries (p<0.05).

Conclusions: These data suggest that women with CRSwNP have more severe disease than men. Future studies are needed to elucidate the mechanisms that drive disease in men and women, and may pave the way for the development of improved therapeutic strategies for treatment of CRSwNP in both women and men.
Abstract should include the following subheads as appropriate: Title, Summary, Objective, Sample, Methods, Results, Conclusions. Limit one page. Formatting follows:

Title: The Associations of Acculturative Stress, Depression, and Anxiety among Black and Latino Youth in Residential Treatment

Objective. The purpose of this study was to investigate the prevalence of acculturative stress and the relationship between acculturative stress and symptoms of depression or anxiety among racial/ethnic minority youth in residential treatment. Sample. The sample included 1,790 Black and Latino youth who are under the care of the Illinois Department of Children and Family Services (DCFS), who entered residential treatment or group home care settings between 2006 and 2012. Method. The Child and Adolescent Strengths and Needs (CANS) measure was used to assess for acculturative stress, depression, and anxiety. Logistic regression analysis was used to determine the associations of acculturative stress with symptoms of depression or anxiety, after controlling for age, gender, and severity of residential care level. Results. Fifteen percent of Black youth and 40% of Latino youth showed signs of acculturative stress. Acculturative stress was significantly associated with increased odds of having depression [OR = 1.53 (95% CI = 1.17-2.01), p < .01] or anxiety [OR = 2.13 (95% CI = 1.62-2.81), p < .001] among Black youth, and anxiety [OR = 2.46 (95% CI = 1.13-5.32), p < .05] among Latino youth.

Conclusions. These findings suggest that acculturative stress may contribute to depression and anxiety among racial/ethnic minority youth in residential treatment. The findings highlight the need to attend to acculturative stress among youth in residential treatment by adequately screening, assessing, and intervening on youth who may be experiencing acculturative stress to aid adjustment and clinical outcomes. Policy implications of the findings include increasing cultural competency and diversity among staff in residential treatment centers in the child welfare system.
Title: A Tale of Two Medical Groups: facilitating and impeding factors in the implementation of a web-based patient engagement program

Summary: A recent conceptual shift towards patient-centered models of care has coincided with an increased push towards technologies designed to engage patients in new ways across a variety of multi-media platforms. Many of these eHealth technologies have been demonstrated to be effective in improving clinical outcomes in randomized controlled trials. However, few if any studies to date have investigated the challenges to making these kinds of resources widely available to patients. What about cases in which systemic failures prevent patients from ever accessing decision-aids and educational resources? This comparative case study utilizes a mixed methods approach to compare two medical groups in their adoption of a series of web-based patient engagement programs created by Emmi Solutions™, a healthcare communications company located in the West Loop. Although the two medical groups are identical in size, structure, patient population, and geographical location, Medical Group A has succeeded in making these web-based programs available to over 40,000 patients in the past year, whereas Medical Group B has managed to reach fewer than 5,000 patients in the same time period. By comparing these two medical groups, this study will contribute to the current understanding of best practices for implementing eHealth resources.

Objective: To identify the root causes of high utilization of the patient engagement programs within Medical Group A, and to identify the root causes of low utilization within Medical Group B.

Methods: Qualitative data will be gathered from key informants from each medical group in a series of structured interviews. These interviews will take place either by phone or in person and will be recorded, transcribed, and coded for thematic content. Informants within each medical group will include: the Chief Medical Officer, the Chief Informatics Medical Officer, the Emmi™ project manager (the main point of contact for Emmi Solutions™), key physicians, and key front-end administrative staff members. Each medical group’s workflow will be mapped out to identify key events and missed opportunities in the process of making Emmi™ programs available to patients. Fishbone diagrams and cause-and-effect flowcharts will be constructed for each medical group to describe exactly how patients are made aware of this resource and granted access to it online. A Root Cause Analysis (RCA) will reveal the underlying reasons why Medical Group A has thus far been more successful than Medical Group B in its implementation of Emmi’s™ suite of patient engagement tools.

Findings: Facilitating factors to implementation at Medical Group A include: 1) stronger physician championship of programs, 2) large-scale initial rollout, 3) non-reliance on administrative staff to issue programs to patients, 4) more centralized supervision and management, 5) an easy-to-use template for physicians to order programs for patients, identical to the way they would order labs, x-rays, etc., 5) the mindset that programs are mandatory for documentation of informed consent, and 6) policies requiring physicians to make programs available to a minimum number of patients in order to receive their annual bonuses.

Impeding factors to implementation at Medical Group B include: 1) piecemeal implementation of programs starting with low-volume departments, 2) the mindset that programs are optional, 3) a substantial cohort of elderly physicians getting ready to retire, 4) a user interface requiring users to “opt-in” to issuing program for each patient, 5) messaging to physicians from human resources department as opposed to upper level management.
Abstract should include the following subheads as appropriate: Title, Summary, Objective, Sample, Methods, Results, Conclusions. Limit one page. Formatting follows:

Title: The Prevalence of Aspirin Exacerbated Respiratory Disease at Northwestern

Objective: Aspirin exacerbated respiratory disease (AERD) is characterized by asthma, chronic rhinosinusitis with nasal polyps (CRSwNP), and sensitivity to inhibitors of the enzyme cyclooxygenase-1 (COX-1). Patients with AERD have, on average, more extensive sinus inflammation and higher recurrences of nasal polyps following surgery when compared to patients with CRSwNP alone. However, the underlying biologic mechanisms that account for differences between AERD and CRSwNP clinical phenotypes remain unclear. In order to further investigate AERD pathogenesis, we first identified patients with AERD who were evaluated at Northwestern and examined various clinical characteristics of this cohort. We then compared the clinical findings of patients with AERD to those of patients with CRSwNP+Asthma or with CRSwNP alone.

Methods: Electronic health record data from over 1 million individuals in the Northwestern Medicine Enterprise Data Warehouse were utilized to identify 25,660 patients labeled with the ICD-9 codes for acute or chronic sinusitis. Of this cohort, 98 patients met the definition of AERD as they had 1) physician-diagnosed asthma; 2) CRSwNP as documented by nasal endoscopy and/or sinus CT; and 3) history of rhinorrhea and/or wheeze following COX-1 inhibitor ingestion. For comparison, 206 patients with CRSwNP+Asthma and 206 with CRSwNP alone were blindly selected from the initial database search. Clinical characteristics including sex, race, atopy, asthma, severity of sinus disease, and oral corticosteroid dependence were reviewed for each patient.

Results: There was a higher prevalence of women (66%) with AERD than with CRSwNP alone (30%, p<0.0001). African Americans were also more likely to have AERD than CRSwNP+Asthma or CRSwNP alone (p<0.05). On average, patients with AERD had more significant sinus disease (p<0.0001) and oral corticosteroid dependency (p<0.01) compared to patients with CRSwNP+Asthma. Atopy was common in all three cohorts.

Conclusions: At Northwestern, AERD was associated with female sex, more severe sinus disease, and more significant oral corticosteroid dependence. The identification of patients with AERD and the characterization of clinical differences between AERD and CRSwNP will provide the foundation for future mechanistic studies investigating the underlying pathogenesis for these diseases.
Title: Maintaining High Physical Activity in Young Adulthood is Associated with Lower Cardiovascular Disease and All-cause Mortality through Middle Age: the Coronary Artery Risk Development in Young Adults (CARDIA) Study

Summary: Physical activity is inversely associated with cardiovascular disease and all-cause mortality. However, little is known about the association between physical activity patterns over an extended time period and mortality.

Objective: To examine the associations between patterns of physical activity during young adulthood and mortality in middle age.

Sample: The Coronary Artery Risk Development in Young Adults (CARDIA) Study is a longitudinal cohort study, with 25 years of follow-up. CARDIA is a population-based multicenter (Chicago, Illinois, Birmingham, Alabama, Minneapolis, Minnesota, and Oakland, California) study of the risk factors for cardiovascular disease. Participants included 5,115 Black and White young adults aged 18-30 in 1985-1986 balanced on age, race, sex and education.

Methods: At six examinations of CARDIA conducted over 15 years, 3,653 men and women [mean age=40.17 years (standard deviation=3.63)] reported frequency of participation in 13 specific physical activities. Physical activity was expressed as exercise units (EU), with 300 EU approximating 150 min/week of moderate-intensity jogging. Group-based trajectory modeling was used to identify trajectories of physical activity from year 0 to 15 based on the likelihood of achieving 300 EU at each exam. The optimal number of trajectories was identified by comparing the Bayesian Information Criteria. Time at risk was calculated from exam year 15 (2000-2001) through 2011 for CVD and 2012 for all-cause mortality. Cox regression models were used to test the association of physical activity patterns with CVD and all-cause mortality.

Results: Over 13 years of follow up, 114 participants died, 30 from CVD mortality. We identified 4 trajectories of physical activity: declining (22.0%), increasing (15.4%), mostly active (37.6%) and always active (25.1%). After adjustment for age, sex, education, alcohol use, smoking status, CES-D score, depression medication use, body mass index, diabetes, hypertension, and dyslipidemia, compared to participants with declining activity, those with increasing, always active and mostly active trajectories had a lower risk for all-cause mortality, 0.43 (95% confidence interval [CI]: 0.20, 0.92), 0.53 (95% CI: 0.33, 0.85) and 0.26 (95% CI: 0.13, 0.50), respectively. Similarly, compared to participants in the declining activity group, those in the always active and mostly active groups had a lower risk of cardiovascular disease mortality, 0.34 (95% CI: 0.13, 0.85) and 0.24 (95% CI: 0.07, 0.79), respectively. Findings were similar by race and gender.

Conclusions: Adults who maintain recommended levels of physical activity through young adulthood exhibit lower all-cause mortality than adults whose physical activity levels remain low or decline from young adulthood through middle age. Although the cardiovascular death in these CARDIA participants was not the primary cause of death, maintaining regular activity reflects part of an overall healthy lifestyle that is associated with lower mortality.
Title: Characterization and Lack of Planning for Advanced Life Events that Impede Home Independence among Older Adults

Summary: Despite older adults’ wish to remain independent in their own homes, critical health and life events occur that impede their ability to do so. A lack of information exists on what these advanced life events (ALE) entail and the advanced planning older adults perceive is necessary.

Objective: To identify seniors’ perceptions of advanced life events that may impact their future ability to remain in their own home.

Sample: Among 68 participants, 73.5% were female and had a mean age of 73.8 (SD = 6.55). Participants lived in rural, suburban and urban locales in Illinois and Indiana.

Methods: We conducted eight focus groups over a two-month period. Subjects were asked to discuss their future living plans and events/experiences that might impact their ability to remain in their own home. Focus group questions also elicited if subjects had planned for, discussed with others (e.g. spouse, offspring), or acted on these plans if one of these advanced life events occurred to them. Three independent coders used content and constant comparative analysis to analyze results.

Results: Older adults perceived several major advanced life events impacted a senior’s ability to remain in their own home: 1) Hospitalization or Serious Illness, 2) Functional Loss 3) Cognitive loss, 4) Spousal death, 5) Inability to perform home upkeep. Subjects voiced experiences with each of these events in multiple forms (e.g. self, spouse, friend, relative). However, very few perceived these events would occur to them, “I’ve decided I’m not going to get Alzheimer’s!” Planning for these events were almost non-existent as older adult subjects felt that offspring would handle it although many subjects stated that they had not discussed current or future needs with their offspring. While many subjects voiced that they had completed end-of-life documentation, including obituary/funeral requests, there was a lack of advanced planning for life events that have a high likelihood of occurring to seniors.

Conclusions: Helping seniors to create plans for Advanced Life Events (e.g. hospitalization, cognitive loss, and functional loss) is important as it provides seniors a voice in their future while including key stakeholders (e.g. offspring, spouse). It is well known that Advance Life Events have a high propensity for occurring with age and planning instead of reacting after they occur may enable seniors to remain in their own homes longer.
Title: Deconstructing Fear of Independence Loss (FOIL) among Seniors

Summary: Remaining in one’s own home is often one of the highest priorities of seniors. As their physical, functional, cognitive, and social needs increase seniors may require additional services and care in order to remain safely in their homes. However, many adults refuse such care.

Objective: We sought to understand seniors’ perceptions and fears regarding the need for additional services, relocation, or receipt of care in their homes.

Sample: Among 68 participants, 73.5% were female and had a mean age of 73.8 (SD = 6.55). Participants lived in rural, suburban, and urban areas in Illinois and Indiana. Most seniors (73.8%) reported living independently in the community while 9.2% resided in a retirement home.

Methods: We conducted eight focus groups over a two-month period. Our interview protocol prompted participants to discuss advanced planning, decision-making, perceived loss of independence, barriers, and resources that might have an impact on their ability to remain in their own home. Three independent coders used content and constant comparative analysis to analyze results.

Results: Several major themes related to fear of independence loss (FOIL), as well as strategies to overcome FOIL emerged. FOIL was associated with loss of control, resentment of depending on others, annoyance with working around others’ schedules, and guilt of being burdensome. One subject stated: “I had to depend on friends and neighbors to fix food or shop or do anything, and I thought, I don't want to be in that position.” Lack of trust in others and concerns about exploitation were also identified as reasons for FOIL. Conversely, some subjects reframed the concept of independence, viewing actions as more inter-dependent. One subject focused on the aspect of continued contribution to society, saying “I think we forget what the other person is contributing… the person who is able to see his grandchildren to smile at them; I mean he’s giving them something as well.” Another identified strategy was recognition that others may engender positive emotions by helping someone who is in need: “When I'm on the receiving end, I've got to remember that that's giving somebody else some joy.”

Conclusions: Addressing and promoting strategies to reframe FOIL may aid in assisting seniors to accept needed care, enabling them to remain safely in their own homes.
Title: Will the World Health Organization’s “25 x 25” Goal Be Achieved? An Ecologic Time Trend Analysis of Relative and Absolute Premature Mortality Risk Due to Non-Communicable, Chronic Diseases

Objective: To evaluate country-level time trends (1994-2011) in premature (30-69 years) mortality from non-communicable, chronic diseases (NCDs), including CVD, and to create forward projections to 2025 to evaluate the WHO’s goal of reducing the risk of premature mortality from NCDs by 25% by 2025.

Methods: Using publicly available data from the WHO Mortality Database, we created annual estimates of unconditional probability of premature (30-69 years) NCD mortality (1994-2011). The sample included data from all countries reporting NCD mortality data from ≥2 years (n=116) and all countries reporting population estimates over the same years (n=135). We matched these datasets by country, year, division, administrative grouping and sex to reach a final sample of 60 countries (193 WHO Member States, 2011). We used ordinary least squares and log-linear Poisson regression models stratified by sex to evaluate the annual change in risk of premature mortality. We then created forward projections through 2025 using log-linear models. We used extrapolated premature mortality risk at 2025 and compared risk to 2010, with projected United Nations age- and sex-specific population estimates, to evaluate trends.

Results: Among all included countries, the average (SD) risk of premature mortality from NCDs based on log-linear models in 1994 was 6.8 (4.2) and 3.9 (2.1) per 1,000 persons in men and women, respectively. In 2010, men in lower-middle income countries had the highest rates of premature NCD mortality (7.2 [1.8] per 1,000), and women from high-income OECD countries had the lowest rates (2.0 [0.5] per 1,000). If recent trends continue, the median risk of premature mortality from NCDs will decrease by 25.1% (IQR 16.4, 37.0) by 2025.

Conclusions: Among included countries, if recent trends in risk of premature death from NCDs continue to 2025, 50% of countries will achieve the WHO’s 25 x 25 goal. However, data are disproportionately missing from low- and middle-income countries, which appear less likely overall to achieve this goal.
Title: Evaluation of the Trauma Informed Youth Services Initiative in Illinois

Summary: Adolescents and youth across Illinois experience traumatic stress as a result of exposure to adverse experiences. The Trauma Informed Youth Services Initiative (TIYSI), sponsored by the Illinois Collaboration on Youth, disseminated Structured Psychotherapy for Adolescents Responding to Chronic Stress (SPARCS), an empirically-informed, trauma-focused group intervention for youth across the state of Illinois. The Mental Health Services and Policy Program at Northwestern University was the external evaluator of the initiative.

Objective: The TIYSI project was evaluated to determine the impact of implementing SPARCS with underserved youth.

Sample: The sample included 49 youth between the ages of 15-17 that participated in SPARCS groups and completed at least 7 treatment sessions. Participants received SPARCS at one of the participating community youth service agencies across Illinois.

Method: Youth were identified by one of 6 partnering youth service agencies as potentially appropriate for SPARCS either when they presented to one of the partnering youth service agencies requesting services or through referrals from local schools or community based organizations. SPARCS is a group treatment intervention designed to address the needs of chronically traumatized adolescents who have experienced ongoing stress and exhibit problems in several areas including difficulties with affect regulation and impulsivity, self-perception, relationships, somatization, dissociation, numbing, and avoidance. Data were collected on youth’s trauma history, current functioning, and symptomology using the Child and Adolescent Needs and Strengths (CANS) – Trauma Comprehensive assessment tool. The CANS – Trauma was administered at Pre- and Post-SPARCS treatment.

Results: Data were analyzed to answer whether appropriate youth were being referred to SPARCS, whether SPARCS improves youth functioning, and if SPARCS changes children’s level or risk, such as participation in delinquent behaviors. Results showed that 96% of youth had at least mild exposure to one traumatic event: 31% experienced moderate or severe family violence, 30% experienced emotional abuse, and 25% experienced physical abuse. Overall, the traumatic stress symptoms improved for youth and declined from an average of 12% Pre-SPARCS treatment to 7.6% Post-SPARCS treatment. Youth who completed SPARCS also engaged in significantly fewer risk behaviors. Risk Behaviors scores showed an average decline (overall improvement in functioning) of .72 points (on a 4-point scale). Life Domain Functioning showed an average decline of 0.89 points. No significant average or percent actionable change effects were detected within the Child Strengths scale.

Conclusions: Youth were doing significantly better at completion of the SPARCS intervention than when they started. Traumatic stress symptoms reflected the most improvement. Improvements were also seen in life functioning and risk behaviors. Findings suggest that SPARCS can be an effective treatment for at risk adolescents in Illinois. There were no significant changes associated with participants’ level of strengths suggesting that therapists should help youth recognize that skills learned in SPARCS groups can be used to improve relationships and help them cope with a variety of daily life activities.
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Title: Redesigning Transplant Organ Labeling and Identification: An Innovative Approach to Improve Patient Safety

Objective: Over 22,000 deceased donor organ transplants are performed in the United States annually and labels used for procurement are still completed by hand or by using preprinted labels. As one of the highest risk and most complex contexts of medicine, organ transplantation lacks a systematic approach to evaluate potential vulnerabilities (e.g., label illegibility) in the labeling and identification process. In fact, a comprehensive review since 2006 of organ procurement safety incidents identified “labeling” as the most common nature of incidents. As part of a larger Health and Human Services (HHS) Innovation Initiative, we participated in a three phase project to improve the organ labeling and identification process that included: (1) Risk assessment to identify and rank failures and their underlying causes in the organ labeling and identification process; (2) Testing of a tablet application (“app”) to generate and wirelessly print point-of-care, standardized, barcoded labels and Donor ID bands; and (3) Use of high-fidelity, laboratory-based simulations to assess organ procurement workflow with the new “app.”

Methods: A Failure Mode Effects and Criticality Analysis (FMECA) was conducted for the deceased donor, abdominal organ procurement process and focused on steps related to labeling and organ identification. Health Resources and Services Administration (HRSA) and United Network for Organ Sharing (UNOS) representatives, clinicians, and staff from Organ Procurement Organizations (OPOs) and Transplant Centers (TCs) contributed to the creation of a comprehensive process map. Potential failures for each process step were identified, scored, ranked by criticality, and then used to validate the design of the “app.” We executed laboratory-based simulations to test the integration of the “app” and wireless printer into the procurement process, facilitated debriefings with clinician participants to optimize workflow redesign and conducted a human factors usability analysis.

Sample: Forty-two individuals participated in the FMECA. Nine OPO and TC clinicians and staff participated in three, laboratory-based simulations using the application.

Results: The FMECA revealed a total of 146 potential failures or risks from 60 identified process steps. Key “high criticality” risks include: Accuracy of donor information on the label; Identification of the laterality of a kidney; and Validation of receipt of the right donor organ for the right recipient. Significant features of the “app” include an independent, double-entry to verify accuracy of the donor information, a standardized label format, and the ability to wirelessly print labels, Donor ID bands, and shipping manifest for each procured organ at the “bedside.”

Conclusions: The “app” impacts 65% of the top ten identified high criticality risks and should mitigate labeling errors that lead to delays, additional testing, wrong donor organ–wrong recipient errors, and discard of organs due to identification errors. The “app” has the potential to greatly reduce patient safety incidents in organ procurement labeling and identification. The prototype (app) is currently being tested at 5 OPOs in actual donor cases. The results and feedback from system users are being used to develop the next version which will be further tested at 8 OPOs including the 5 original sites. This new process may be useful for the labeling and identification of other high risk items in healthcare.
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**Title:** HIV/AIDS Risk Behaviors in Delinquent Youth as they Age into Young Adulthood

**Summary:** This study examines HIV/AIDS risk behaviors in delinquent youth as they transition to adulthood. Data are from the Northwestern Juvenile Project, the first large-scale longitudinal study of health needs and outcomes of delinquent youth. We assess a broad range of HIV/AIDS risk behaviors, and examine prevalence rates by gender, race/ethnicity, and incarceration status.

**Objective:** This study has two goals: (1) describe prevalence rates of twenty-one HIV/AIDS risk behaviors as youth age into adulthood (by gender, race/ethnicity, and incarceration status); and (2) examine changes in HIV/AIDS risk behaviors over time.

**Sample:** Data are from the Northwestern Juvenile Project, a longitudinal study of detained youth. We drew a stratified random sample of 1829 youth (ages 10-18 years) recruited between 1995 and 1998 at the Cook County Juvenile Temporary Detention Center in Chicago, Illinois. The current study examines data from the baseline interview during detention up to the 8 year follow-up interview. At baseline, HIV risk behaviors were assessed on a random subsample which included 460 males and 340 females, and 430 African Americans, 145 non-Hispanic whites, and 223 Hispanics. At the last follow-up interview (n=1333), participants were 18-29 years old, 62% male (n=822), 59% African American (n=782), 15% non-Hispanic white (n=203), 26% Hispanic (n=346), and <1% other race/ethnicity (n=2).

**Methods:** We conducted face-to-face interviews with participants up to 7 times during the 8 years after detention, whether they lived in the community or were (re)incarcerated. Using NIDA's Risk Behavior Assessment, we estimated prevalence rates of 21 risk behaviors, including: multiple partners, unprotected sex, sex while drunk or high, and sex with high risk partners. Because the opportunity to engage in sexual activity is limited in correctional facilities, we estimated weighted prevalence rates separately for those living in the community and those living in correctional facilities. We used Generalized Estimating Equations to estimate changes in risk behaviors as youth aged as well as gender and racial/ethnic differences in the prevalence of risk behavior over.

**Results:** Prevalence rates of many HIV/AIDS risk behaviors dropped significantly as youth aged. Unprotected sexual activity was the most common risk behavior. Compared to females, males had significantly higher prevalence rates of having multiple partners (>1), unprotected oral sex, unprotected anal sex, unprotected sex while drunk/high, as well as sex with high risk partners. Minority males, especially African-Americans, had higher prevalence rates of multiple partners compared to non-Hispanic whites.

**Discussion:** Study findings suggest that delinquent youth have higher rates of risky behaviors than youth in the gen pop, increasing their risk of contracting HIV/AIDS. HIV/AIDS preventive interventions should incorporate mental health and substance abuse treatment, develop linkages to services between correctional agencies and the community, and be customized to target the specific needs of females and racial/ethnic minority youth in detention.
Title: Implementation and adoption of Quality Improvement projects in the primary care private practice setting

Summary: With the advent of analytical tools built into the electronic medical record, providers now have the ability to quickly assess and act on quality improvement data. Continuous quality improvement is a competency and standard now incorporated into Internal Medicine board recertification, Meaningful Use 3, Patient Centered Medical Home certification, and residency education.

Objective: This pilot study identifies attitudes, barriers, and strategies to implementing a quality improvement project in a non-academic setting

Methods: We performed an automated retrospective chart review of NCQA Quality Measures for all patients seen by providers in two Streeterville practices using eClinical Works (ECW) from 1/1/2013 to 2/15/2014. After baseline analysis, providers chose two (2) Meaningful Use core measures for targeted improvement. Providers received documentation and counseling education from a certified clinical implementation specialist (CIS). Follow up at 1 month, 3 months, 6 months, and 1 year. At follow-up the CIS discussed attitudes and barriers to implementing quality improvement via unstructured interview and provided additional provider education as needed.

Results: All providers chose to focus on the following measures: "Adult Weight Screen and Follow-up (>65 yrs.)," "Adult Weight Screen and Follow-up (18-64 yrs.)," "Tobacco Use Assessment (18 and older)," "Tobacco Use Intervention."

<table>
<thead>
<tr>
<th>Practice</th>
<th>Adult Weight Screen and Follow-up (&gt;65 yrs.) Baseline (%)</th>
<th>Adult Weight Screen and Follow-up (18-64 yrs.) Baseline (%)</th>
<th>Tobacco Use Assessment (18 and older) Baseline (%)</th>
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<tr>
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<tr>
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<td>32.9</td>
<td>97.4 22.45</td>
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<td>All Practices</td>
<td>51.8</td>
<td>33.7</td>
<td>97.0 22.5</td>
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Conclusions: Providers have the capability to implement their own quality improvement project with minimal assistance. Next steps include longitudinal data to see if quality gains are sustained. Using best practices developed in private practice, next steps also include implementing a similar protocol in small community health centers in underserved areas. Quality Improvement is also a useful way to show practices the benefits of coordinated care (PCMH) on QI statistics.
Title: A Community Partner-Guided Approach to Adapting a HIV Curriculum for Primary Care Providers in the Dominican Republic: Feasibility and Initial Results

Summary: The Caribbean has the second highest HIV prevalence in the world, and 80% of the region’s HIV-infected (HIV+) persons reside in Hispanola. There are up to 52,000 HIV+ individuals in the Dominican Republic (DR), with HIV prevalence approaching 12% in concentrated epidemics in Haitian migrants. Trained infectious diseases/HIV subspecialists are rare in the DR. The WHO prioritizes integrating HIV into primary care, yet accessible HIV training tailored to the needs of Dominican primary care providers is lacking.

Objective: Our objective was to develop a HIV curriculum responsive to the needs of primary care providers at our community clinic partner in the DR.

Methods: Clínica de Familia in La Romana, DR, is the country’s second largest HIV community clinic, caring for 1,400 HIV+ patients including a large population of Haitian migrants. There are 4 general providers and 1 internist at the Clínica. Partnership building and educational needs assessment occurred on-site with the Clínica’s medical and executive directors. Guided by their needs, we adapted an online WHO-based HIV course successfully used in Ethiopia by translating to Spanish; incorporating 2013 DR HIV Guidelines; tailoring to topics relevant to Clínica providers; and developing written materials. We conducted the curriculum in person in Spanish in 2 parts, HIV Fundamentals and HIV Clinical Knowledge, separated by 1 month in 2013. Each part was comprised of 2, 2-hour interactive presentations divided over 2 days and organized around the Clínica schedule. Participants were Clínica providers (physicians, residents, medical students). We developed content-specific, multiple-choice pre-tests and post-tests, which were completed immediately prior to and up to 3 months after each part, respectively. Percent of questions answered correctly was calculated.

Results: Participants were engaged in presentations and identified barriers to realizing best HIV practices (e.g., drug shortages, laboratory limitations). For HIV Fundamentals, pre-test (N=15) mean(SD) percent correct was 36%(22), and post-test (N=8) mean percent correct was 71%(17). For HIV Clinical Knowledge, pre-test (N=17) mean percent correct was 44%(18), and post-test (N=9) mean percent correct was 62%(29). Post-test follow-up was low due to trainees rotating to other sites.

Conclusions: Adapting a HIV curriculum responsive to educational and logistical needs of Dominican primary care community providers is feasible and may improve HIV knowledge. Future work will evaluate acceptability of scale-up and impact on clinical outcomes.
Title: Re-Connecting Substance Abusers with HIV Back to Care

Background: HIV infection has become a chronic condition that can be effectively managed with regular monitoring and appropriate medical care. However, most HIV-positive individuals remain either undiagnosed, unconnected to medical care, or have less optimal patterns of healthcare utilization. Prior research has shown that substance abusers have lower levels of engagement in HIV care than other risk groups. With primary care shortages in the US, Emergency Departments (ED) represent an important gateway for community health access. One solution for more efficient use of ED resources may lie in the creation of care-linkages with community-based organizations.

Objective: The overarching goal of this study is to develop and test a unique ED-based and community-engaged care linkage program designed to reconnect HIV-positive substance-abusers to both clinical care and community-based social supports, with the goal of improving clinical and care retention outcomes.

Research Design/Methods: Through a partnership between Northwestern Memorial Hospital Emergency Department and Chicago House, a dedicated and mobile Care Coordinator (CC) will provide an intensive, patient-centered, and counseling-based intervention to connect patients with various healthcare and social services through Chicago House referrals. Enrolled patients will be evaluated for one year after enrollment, with measures of CD4 count and HIV viral load being measured in the established clinic setting at intake and every three months for one year. Also, surveys incorporating patient reported outcomes will be administered at these intervals by the CC to measure changes in quality of life.

Results: Of the eight patients enrolled in a pilot over the last 12 months, 75% had not seen a physician for over a year before enrollment, and after enrollment, 88% of these individuals have been re-linked into the care via scheduled and completed appointments for HIV management with 100% of enrolled patients completing their first medical appointment within 30 days of enrollment. 75% of these re-linked patients have been provided and filled prescriptions for antiretroviral therapy (ART), linked to needed psychosocial supports, and remained in coordinated communication with the CC. 63% have already demonstrated a decrease in viral load.

Conclusions: Preliminary results from the pilot phase indicate that a substantive yet practical effort to address the lack of medical support and community-based care coordination for substance-abusing known HIV-positive or newly diagnosed adults can improve their adherence to care plans and augment both their clinical condition and quality of life.

Keywords: Linkage, Retention, Community Engagement, Care Adherence, Substance Abuse, Patient-Centered Care
Implementing Text Messaging in a Weight Loss Intervention - The Enlighten Pilot Study

Obesity is a major public health challenge. Intensive Lifestyle Interventions (ILI) are the gold standard treatment for weight loss in adults, but are costly to implement. Although mobile technologies might offer a way to deliver ILI cost-effectively, to date results of using either a native application or text messaging alone for weight loss have been disappointing. We examined whether combined use of a smartphone app plus text messaging plus minimal coaching contact might be effective and useful in a worksite setting.

To examine the feasibility and acceptability of a smartphone-enhanced weight loss intervention that utilizes a commercial app and text messaging.

Participants (n=9) were employees at Blue Cross and Blue Shield of Illinois [66.7% female, 55.6% Black or African-American, mean age= 42.4 years (SD=7.9), mean BMI= 31.8 kg/m² (SD= 4.5), mean weight= 197.2 lbs. (SD= 37.3)].

Participants self-monitored weight, diet and physical activity for 8 weeks using the Lose It!™ smartphone application. Study coaches were able to view participant data using Lose It!'s “coach” interface. All participants were given a 2% weight loss goal, personalized calorie and fat gram goals, and a standard physical activity goal over the 8-week study. Calorie goals ranged from 1200-2000 kcal/day; fat gram goals ranged from 33-55 g/day, depending on baseline body weight. Weekly physical activity goals were identical for all participants, and progressed from 100 minutes in weeks 1-4 to 150 minutes in weeks 5-8. Over the 8 weeks, all participants received text messages drawn from different categories (e.g., Reminders, Tips). Between weeks 4-8, participants received 4 coaching calls, which centered on dietary and physical activity self-monitoring, motivation, and problem solving. Weight, BMI, waist circumference, and text message preference (i.e., frequency, content) were assessed at baseline and at 8 weeks.

Eight participants (89%) completed the 8 week intervention and final assessment. Both weight and BMI decreased significantly over the 8-week assessment: participants lost an average of 5.6 pounds (SD= 5.55, p=.025), and BMI decreased from 31.8 to 29.5 kg/m² (SD= 4.28; p= .022). These changes represented an average 3.2% reduction in body weight (SD=3.58), and a decrease in waist circumference from 92 to 86 cm. (SD=13.82). Coaches completed 88.9% of coaching calls, and manually sent 476 total text messages over 8 weeks. Participants preferred to be sent an average of 1.8 texts per day, on an average of 4.3 days of the week. In terms of message content, 88.9% of participants preferred Tips, Reminders, or Motivation.

Participants successfully used a commercial app to self-monitor diet and activity over an 8 week period, and were largely successful in reaching weight loss goals. Remotely delivered intervention that combines an app, text messaging and some telephone coaching appears to be a promising, low cost approach to producing weight loss.
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Title: Reducing Sedentary Time in Adults with Diabetes using Innovative Smartphone and Accelerometer Technology

Summary: Sedentary behavior is associated with an increased risk of mortality, as well as heightened risk of disability, obesity, type 2 diabetes, and cardiovascular disease, independent of moderate to vigorous intensity physical activity. Recent experimental findings suggest that breaking up prolonged bouts of sedentary behavior (≥ 20 minutes) with light or moderate intensity physical activity for 2 minutes reduces postprandial glucose and insulin responses.

Objective: To examine the use of a smartphone application (NEAT!) that works with an accelerometer that objectively measures and interrupts prolonged bouts of sedentary behavior in adults with diabetes over a one month period.

Sample: Nine adults with diabetes were recruited and eight completed the study. Participants were predominately female (77.8%) and African American (77.8%) with an average age of 53.1 (10.7) years and BMI of 37.4 (9.9) kg/m².

Methods: The NEAT! smartphone application works in conjunction with a Bluetooth enabled accelerometer that can detect bouts of sedentary behavior. When a sedentary bout (≥ 20 minutes) is detected, NEAT! triggers a reminder prompt to the user encouraging him/her to engage in light intensity physical activity such as standing or light ambulation for at least 2 minutes. Participants were encouraged to use NEAT! and the accelerometer 5-7 days/week during waking hours. Usage of NEAT! over the one month period was examined. A valid day was defined as using NEAT! for >180 minutes. Participants also wore an Actigraph accelerometer to measure total (<100 counts/min) and breaks in sedentary time (minimum 1 minute in which the counts rose up to or above 100 counts/min) at baseline and one month.

Results: Over the one month period, participants on average used NEAT! 21.9 (8.0) days for 7.6 (2.5) hours/day. Across all participants, they received a total of 182 prompts over the month. On average, participants were prompted to stand up 5.8 (3.5) times/day. Sedentary time significantly decreased by 41.9 (27.2) minutes/day (p=0.003). Light intensity physical activity increased by 39.8 (70.6) minutes/day but was not significant (p=0.15). Although breaks in sedentary time decreased from 83.7 (16.4) to 74.1 (19.8) breaks/day, the break duration increased by 0.91 (0.96) minutes (p=0.03).

Conclusions: Based on the preliminary data, the NEAT! smartphone application and accelerometer appear to be a feasible and acceptable technology that interrupts prolonged periods of sitting. The NEAT! technology was able to successful decrease total sedentary time, however contrary to our hypothesis, breaks in sedentary time decreased. It appears that individuals took fewer breaks in sedentary time, but extended the duration of the break. Future studies may want to examine whether this technology can decrease glucose levels in individuals with diabetes.

We acknowledge the financial support of the Chicago Center for Diabetes Translation Research (NIDDK P30 DK092949).
Title: A National Survey of Medical Student Interest in Business Education

Summary: An increasing body of literature has demonstrated that physician education in management can improve patient outcomes and hospital performance. Management education taught concurrently with medical education has been proposed, but the receptiveness of medical students to this education has not been thoroughly investigated.

Objective: This study sought to determine the level of medical student interest in business education and to explore the preferred delivery methods.

Methods: A survey was sent to the deans of each US allopathic medical school to be forwarded to their students. Questions were posed to assess the background, perception, and interest of medical students regarding receiving business education. Completed surveys from institutions with at least 5 responses were included in the analysis.

Results: 1299 medical students from 20 institutions completed the survey. The vast majority (74.4%) completed no more than one business or economics course during their undergraduate studies, and 59.5% had less than a year of work experience of any sort. Most (67.2%) of students thought that a background in business would be important or very important in their careers and 65.2% were either interested or highly interested in receiving further business education. These figures were independent of work experience, previous business coursework, or year in medical school. 60.9% of respondents were interested or highly interested in receiving business education as an integrated portion of the medical school curriculum.

Conclusions: There is significant medical student interest in basic management education. Surveyed students had greatest interest in receiving this business education as an integrated part of the medical school curriculum. Further study may better elucidate the content and delivery method of these courses.
Title: Reducing Sedentary Time and Metabolic Syndrome Risk Factors in African American Adults in Chicago’s Austin Neighborhood

Purpose: African American (AA) adults perform less physical activity (PA) than other ethnic groups. In addition to low PA levels, sedentary behavior has been found to contribute to the risk of developing metabolic syndrome (MetS). The Westside Health Authority, a community-based organization in Austin, has developed a program, called Body & Soul: Healthy Lifestyles Program (B&S), designed to engage adults in PA and healthy lifestyles. The purpose of this study was to investigate the effectiveness of B&S on reducing risk factors for MetS (hypertension and abdominal obesity) and changing the quantity of sedentary behavior in urban AA adults. Specific aims of this study were to: 1) analyze if participation in B&S reduced blood pressure and abdominal obesity, and 2) analyze if time spent sedentary during waking hours decreased after participation in B&S. Sample: 21 B&S participants > 40 y/o with a BMI ≥ 25.

Methods: This was a pretest-posttest study utilizing community-based participatory research. Outcome measures included: systolic and diastolic blood pressures (SBP, DBP), waist circumference (WC), percent of time spent sedentary, and six fitness tests. Sedentary time was assessed using an ActiGraph GT3x+ accelerometer worn on the hip during the first and last week of participation in B&S. Data were analyzed using paired t-tests with a significance level of p<0.05. Results: Of the 21 participants who began the study, 19 provided post-test data (15 females, 4 males), and 7 had valid accelerometry data. Mean participant age was 58 y/o (44-74 y/o); mean BMI was 37.27 (27.3-60.6 kg/m2). Mean DBP significantly decreased by 6.09 mmHg (p=0.04). Improved fitness was seen by an increase in mean single leg stance (SLS) time (8.7 seconds, p=0.01) and mean number of steps during 2-minute step test (26 steps, p=0.000). There were insignificant mean reductions in SBP (2.09 mmHg) and WC (0.92 cm). Mean sedentary time did not change significantly (84.98% pre to 85.23% post). No time was recorded in moderate, hard, or very hard activity at either pre- or post-B&S. Conclusions: Positive findings due to participation in B&S included a decrease in DBP and increased step number and SLS time. Although statistically insignificant, WC and SBP positively improved. There was no statistically significant change in sedentary time. Limitations of the study included small sample size and poor accelerometry compliance. B&S may help reduce risk factors for MetS and improve fitness, but not impact sedentary behavior. Future research that addresses the limitations of this study is needed to thoroughly assess the effectiveness of the B&S program. Physical therapists can promote community health and wellness by participating in and contributing to programs like B&S.
Title: Associations of Type II Diabetes with Treated and Untreated Depression across Racial/Ethnic Backgrounds: The National Health and Nutrition Examination Study

Summary: The association of diabetes with treated or untreated depression varied within racial/ethnic background groups.

Objective: To test whether racial/ethnic background modified diabetes’ association with treated and untreated depression in a large sample of middle-aged adults. We also tested the association of diabetes with treated and untreated depression within racial/ethnic background groups.

Sample: The sample consisted of participants from the National Health and Nutrition Examination Study (NHANES) with measures of depressive symptoms and fasting glucose collected between 2005 and 2010 (n=5,771). The average age was 55 years and the sample consisted of White (n=2,894), Black (n=1,071), Mexican American (n=1,017), and “Other Racial/Ethnic Background” (n=789) men and women.

Methods: Treated depression was determined by self-reported current antidepressant use (e.g., SSRIs, MAOIs, and TCAs). Untreated depression was determined by an elevated depressive symptoms (EDS) score => 10 on the Patient Health Questionnaire-9 and no report of current antidepressant use. The primary outcome variable, Type II Diabetes (T2DM), was defined as fasting glucose >=126, clinician diagnosis, or diabetic medication use. Weighted logistic regression analyses were used to test the associations of T2DM with treated and untreated depression.

Results: Nineteen percent of the sample had T2DM with the Whites (16.3%) having a lower prevalence of T2DM within their racial/ethnic group compared to the Blacks (23.8%), Mexican Americans (22.4%), and Others (19.1%). Within the racial/ethnic groups, individuals with T2DM had a higher prevalence of treated and untreated depression compared to those who did not have T2DM, with the exception of Black participants; their prevalence for untreated depression was similar among those with (6.7%) and without T2DM (6.3%). Racial/ethnic background did not modify the association of diabetes with treated (χ²= 5.62, p=0.13) or untreated (χ²=1.86, p=0.60) depression. Among Whites (OR 1.96, 95% CI 1.13, 3.43), those who had T2DM were more likely to have untreated depression compared to those who did not have T2DM, after adjusting for demographic, chronic disease, and insurance covariates. Among Blacks (OR 2.28, 95% CI: 1.26, 4.12) and Mexican Americans (OR 2.52, 95% CI: 1.32, 4.83) those who had T2DM were more likely to have treated depression compared to those who did not have T2DM, after adjusting for demographic, chronic disease, and insurance covariates.

Conclusions: Racial/ethnic background did not modify associations of T2DM with treated and untreated depression. However, the association of T2DM with treated or untreated depression varied within racial/ethnic group. These findings suggest that Blacks with T2DM are more likely to be screened for depression, and therefore receive treatment, compared to those without T2DM. These results may show the importance of providing mental health screenings during medical visits, particularly among Blacks.
Title: Flares in women suffering from interstitial cystitis/painful bladder syndrome

Summary: Interstitial cystitis/painful bladder syndrome (IC/PBS) is a chronic pain condition characterized by symptoms such as urinary frequency and urgency, painful voiding, and general pelvic pain, pressure and discomfort. Flares have been well documented among conditions such as lupus, rheumatoid arthritis, and non-specific back pain, but very little research has been conducted on female patients suffering from IC/PBS flares.

Objective: To describe the prevalence and characteristics of flares among female patients who suffer from IC/PBS (N = 31), and to examine associations with multidimensional measures of pain symptom severity.

Methods: Thirty-one women diagnosed with IC completed an online questionnaire as part of the Multidisciplinary Approaches to the study of chronic Pelvic Pain study (MAPP) network. Participants reported on flare duration, frequency, intensity, and other characteristics of flares. We compared individuals with and without IC flares with respect to three dimensions of IC: 1) level of pain, 2) urinary symptom severity, and 3) quality of life. These dimensions were quantified using the Genitourinary Pain Index (GUPI), a widely-used questionnaire for pelvic pain symptoms.

Results: Most women reported having a flare-up of pelvic pain symptoms (n = 21/31; 68%). Comparing women with an IC flare-up (n = 21) versus women with IC, but not in a flare (n = 8), flares were associated with higher levels of pain on the GUPI, t (df) = 2.1 (27), p = .046, Cohen's d = .87. Urinary symptoms and quality of life did not significantly differ across women in versus not in a flare. Most women (n = 15/21, 71%) reported that flares lasted for more than one day, and occurred “often” (n = 13/21, 62%). Only 1 participant indicated that flares involved urinary symptoms only. The majority of women indicated that flares involved both pain and urinary symptoms (n = 15/21, 71%). Ratings of flare intensity were associated with pain levels measure by the GUPI, r = .44, p = .047, but not significantly associated with other GUPI subscales.

Conclusions: Flares were a common occurrence in our sample of women diagnosed with IC. Moreover, flares were associated with higher levels of pain, but not significantly associated with urinary symptoms and quality of life. Future directions from this project include developing fine-grained measures of symptom fluctuations that may predict the onset of a pain flare. Such assessment tools could identify flare triggers that cause increases in pain. Such tools could also be linked to interventions, to help women with IC prevent and cope with pain flares.

(In order to be considered for inclusion in the 2014 Research Day program, **ALL** abstracts must be in Arial, 11 pt font, and must fit one page. Any abstract exceeding criteria will be sent back for revision. Thank you.)
Title: Beware the Chair! Time Being Sedentary is a Distinct Risk Factor for Incident Disability: Evidence from Longitudinal Data

Summary: Prolonged sedentary time has been shown to be an independent risk factor of many diseases and conditions including obesity, metabolic syndrome, and type 2 diabetes. Disability is important because it threatens personal independence and is a major driver of health care costs. Little is known about the association between time spent in sedentary behavior and incident disability.

Objective: To evaluate whether objectively measured time spent in sedentary behavior is related to disability onset independent of time spent in moderate-to-vigorous physical activity.

Sample: 1680 community dwelling adults aged 49 years or older at elevated risk for disability due to knee osteoarthritis (OA) or knee OA risk factors

Methods: Time spent in sedentary behavior was objectively measured using accelerometers. Disability ascertained from limitations in activities of daily living (ADL) was systematically assessed by a questionnaire at baseline and two years. The association between time spent in sedentary behavior and disability onset after 2 years was examined by discrete time proportional hazards model adjusting for socioeconomic factors (age, sex, race/ethnicity, education, income), health factors (comorbidity, Center for Epidemiological Studies Depression score, body mass index category, current smoking, knee pain, knee OA severity, knee symptoms, knee injury, other lower extremity joint pain) and average daily moderate-to-vigorous physical activity minutes.

Results: The average daily hours of sedentary behavior ranged from 4 to 14, with a mean ± SD of 9.8 ± 1.5. Increasing time spent in sedentary behavior was associated with increased incidence of disability independent of moderate physical activity. In the discrete time proportional hazards model, the hazard ratio of ADL disability onset was 27% higher (HR=1.27, 95% CI=1.11–1.47) for each additional hour of sedentary behavior per day. This finding remained significant in multivariable analyses adjusted for demographic factors, health factors and average daily moderate-to-vigorous physical activity minutes.

Conclusions: Time spent in sedentary behavior is associated with increased risk of developing limitations in ADLs in persons with or at risk for knee OA. These findings support the evaluation of guidelines and programs that encourage adults with or at risk for knee OA to decrease time spent in sedentary behavior in order to prevent disability.
Title: Linking Patients, Provider, And Community To Increase Weight Loss And To Encourage Healthy Lifestyle Behaviors In Patients With Type 2 Diabetes.

Summary:
Diabetes is the 5th leading cause of death in Chicago. For every 100 patients with type 2 diabetes, receiving support to achieve 5% to 10% weight loss helps 12 more achieve blood pressure goals and 22 reach A1c goals, when compared to medication use alone. In order to achieve such success, patient behavior change must take place daily, outside of the doctor’s office.

Objective: To evaluate if a low cost strategy involving telephone counseling calls made by community health workers (CHWs) can motivate patients with type 2 diabetes to make healthy lifestyle changes.

Sample: 2105 patients with pre-diabetes or diabetes

Methods: We used a prospective cohort study design to understand patterns of participation, satisfaction, and effectiveness of a CHW-centered, telephonic, health promotion resource and counseling ‘hub’ called Diabetes Link (DL). Health care providers referred patients with prediabetes or type 2 diabetes to Diabetes Link (DL), which is staffed by CHWs trained to use motivational communication strategies and a geospatial resource database to guide patients in the development of a lifestyle action plan. CHWs discussed provider recommendations, patient motivation, and desired lifestyle changes with each referred patient, and used the DL resource database to locate programs that promote healthy eating and physical activity near the patients’ home or work. Patients were mailed a copy of their action plan, along with health education information and a list of community programs. A follow up call was made after 30 days to survey patients about their progress, offer additional resources, and obtain feedback about the service.

Results: After 5 or more attempts, 501 of the 2105 referred patients were successfully reached by telephone and offered DL resources. Of the 275 (55%) were reached for follow-up at one month, 79% still felt motivated to make healthy eating or activity patterns, 21.9% contacted and 17.4% attended programs recommended by the CHWs, and 34.5% requested more resources. Common barriers to healthy behavior included bad weather, family or social obligations, and lack of time. Patients reported that being referred by their health care provider made them feel that their provider cared about their health.

Conclusion:
A referral-based lifestyle resource and counseling hub that is staffed by community health workers is a feasible strategy for linking adult primary care patients with community resources for health promotion. However, additional research is needed to improve the engagement of some patients who are not referred, are unreachable by phone, or remain unmotivated despite best efforts of the CHW.
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Title: Preschoolers’ Language Abilities Are Associated with Greater Social Competence

Summary: Socially-competent behavior (e.g. responding in non-aggressive ways to peer provocation) is essential for early school performance and peer interactions. Children with more competent social behaviors have been shown to have better academic achievement later in life (DiPrete & Jennings, 2012). Many cognitive domains have been reported to affect early social skills, with some studies demonstrating the contribution of language abilities on socially-competent behavior.

Objective: In order to further investigate the relationship between language and early social behavior, we examined whether preschoolers’ expressive and receptive language were associated with their performance on the Challenging Situations Task, a developmentally sensitive self-report measure of behavioral responses to ambiguous challenging situations (Denham, 1994)

Sample: 184 children (50% female; 53.3% African American, 23.9% Latino, 21.7% Caucasian, 1.1% Other; Age: M = 58 months, SD = 10.3 months)

Methods: Children were administered the Sentence Structure and Expressive Vocabulary subtests of the CELF P-2, a standardized assessment of language development. Overall language scores were computed by averaging scores on the two subtests. Children also completed the Challenging Situations task, in which they were presented with 3 ambiguous peer situations (being hit by another child, having a soccer ball taken away, and having a tower of blocks knocked down). Children were asked what they would do in each situation. Analyses focused on Prosocial and manipulative responses.

Results: A series of linear regressions that controlled for age, SES, race, and gender, revealed that children’s language abilities were positively associated with their prosocial responses ($\beta = .403, p < .001, sr^2 = .11$) and negatively associated with their manipulative responses ($\beta = -.198, p = .001, sr^2 = .065$).

Conclusions: These results suggest that language plays an important role in early socio-emotional development. Denham has proposed using the Challenging Situations task as a measure of early school readiness. Based on our findings, attention to building language development may strengthen early intervention programs aimed at promoting prosocial development and school readiness. Future research investigating the mechanisms by which language affects socially-competent behavior is warranted.

Keywords: preschool children, development, language, socio-emotional development

Title: Healthcare utilization in urban, ethnically-diverse, lesbian, gay, bisexual, and transgender young adults (LGBTY) with psychological symptoms

Summary: LGBTY experience health disparities relative to heterosexual young adults, including higher rates of mental health disorders and substance use (MH/SU). One factor perpetuating health inequity among LGBT persons is low healthcare utilization, particularly among LGBTY with MH/SU, though knowledge about healthcare utilization patterns in LGBTY is scarce.

Objective. This study describes healthcare utilization and barriers (e.g., cost, provider stigma) among urban, ethnically-diverse, LGBTY reporting MH/SU.

Sample. Participants (114 female-born, 92 male-born) were 18-27 years old (mean = 23.0) and ethnically-diverse: 56% Black, 18% multiracial, 14% non-Hispanic White, 12% Hispanic or Latino/a. Two-thirds met criteria for ≥ 1 of: substance use (51%), major depressive disorder (25%), alcohol abuse (18%), or posttraumatic stress disorder (16%).

Methods. A community sample of 246 LGBT adolescents was recruited for Project Q2, an ongoing longitudinal cohort study of LGBTY. During the eighth wave (84% retention), participants completed psychiatric interviews and self-report measures of health/well-being, healthcare utilization, and alcohol/substance use (i.e., marijuana, cocaine, methamphetamine, club drugs). Data were analyzed using descriptive statistics and chi-squared tests.

Results. Most participants (69%) reported easy access to medical care but 52% were uninsured, which did not differ significantly by MH/SU status. The most frequently-reported, primary sources of medical care were private doctor (28%), community-based health clinic (27%), or the emergency room (21%). Most participants with MH/SU reported visiting a healthcare provider in the last year (66%), while only 17% reported having a mental health provider; two-thirds rated their mental and physical health as good or better. Compared to participants not reporting MH/SU, significantly more participants with MH/SU reported delaying or not seeking medical care when sick or injured (37% vs 21%) and preventive care (33% vs 19%) due to cost. Across both groups, participants reported low levels of LGBT-related stigma and discrimination when accessing medical care (4-6% depending on care location), with lower levels in MH/SU care (0-2%).

Conclusions. Despite a documented need for services and self-reported easy access to healthcare, rates of healthcare utilization among LGBTY with MH/SU were low compared to young adults in general and young adults with MH/SU, with cost, lack of insurance, and perceived good health status as potential barriers to seeking care in this sample. In contrast to previous data, participants reported low levels of stigma and discrimination in healthcare settings related to being LGBT, which could be related to increased awareness of LGBT health among healthcare providers, or the study location in a large, progressive city where low-cost, LGBT-specific healthcare is more accessible. More research using nationally-representative samples of LGBTY is needed to identify factors contributing to low levels of healthcare utilization among LGBTY with MH/SU, which can inform changes to policy and practice and ultimately reduce health disparities for LGBTY.
Title: Prospective Association between Blood Leukocyte Telomere Length and Cancer Incidence and Mortality

Background and Objective: Telomeres play a critical role in maintaining the structural integrity of chromosomes. Accelerated telomere shortening may lead to chromosomal instability, increasing cancer risks and mortality. In this study, we longitudinally examined prospective associations between blood leukocyte telomere length (TL) and cancer incidence and mortality rates.

Methods: Our study included a total of 792 participants in the prospective Normative Aging Study. Between 1999 and 2012, participants underwent several blood drawing during visits in every 3-5 years. We measured TL using quantitative real-time PCR on blood samples obtained at 1 to 4 visits before cancer diagnosis. Multiple Cox and logistic regression models were used to identify the association of TL or dynamic TL changes with cancer incidence and mortality, respectively.

Results: In 579 participants free of cancers at enrollment, longer TL was associated with higher risk of cancer diagnosed within 2-4 years of TL measurement with hazard ratios of 2.20 (95% CI 1.00-4.83), 2.61 (95% CI 1.20-5.69) for subjects in the third and fourth quartile, respectively (P-trend=0.002). For mortality rates, longer TL was associated with higher risk of cancer death within 2-4 years of TL measurement. Compared with subjects with TL in the shortest quartile, hazard ratios for overall cancer mortality were 0.39 (95% CI 0.08-2.05), 1.75 (95% CI 0.59-5.11), 2.45 (95%CI 0.78-7.67) for subjects in the second, third, and fourth quartile, respectively (P-trend=0.02). Increase of TL within 6 years prior to cancer diagnosis was also associated with higher risk of overall cancer (odds ratio= 2.4, 95% CI 1.0-5.7, P=0.04).

Conclusion: Longer TL is associated with higher risk of cancer incidence and cancer mortality within 2-4 years of TL measurement. Further studies are needed to determine the predictive value of blood TL in specific cancers, as well as their underlying mechanisms.
Title: A comparison of blood pressure-lowering treatment decisions based on levels of blood pressure, age, and risk

Summary: The goal of primary prevention is to direct treatment toward individuals who will derive greatest benefit from that treatment. However, single risk factors such as blood pressure or age incompletely capture absolute risk and potential treatment benefit for the individual, thus providing a role for multivariable risk assessment.

Objective: In this study, we aim to compare blood pressure treatment decisions based on levels of systolic blood pressure (SBP), age, or pretreatment risk.

Sample: Individual participant data from participants without cardiovascular disease in randomized clinical trials included in the Blood Pressure Lowering Treatment Trialist's Collaboration, a prospective overview of randomized blood pressure trials.

Methods: Three treatment strategies based on thresholds of SBP, age, or five-year Framingham risk estimates were compared by calculating expected number of cardiovascular events and net benefit using graphical methods and decision curve analyses. Strategies were compared as differences in the areas under the curves expressed as percentages of the maximum possible area, with bootstrap-obtained confidence intervals.

Results: We analysed 16,419 individuals with 53,571 person-years of follow-up. For a given treatment threshold and number of individuals treated, treatment decisions by Framingham risk estimate could result in fewer cardiovascular events at every decision threshold compared to SBP or age, risk-minus SBP-based treatment decisions = -2.8% (95% CI -4.1 to -1.3%) and risk-minus age-based decisions -2.6% (95% CI -4.7% to -0.7%) (Figure 1). For a treatment threshold based on expected absolute risk reduction, net benefit was maximized using Framingham risk although the differences did not meet statistical significance.

Conclusions: Blood pressure treatment decisions based on estimated absolute risk are more efficient than age- or SBP-based treatment decisions, across a wide range of treatment thresholds. These results support prioritizing risk-based blood pressure treatment strategies in the primary prevention of cardiovascular events.

![Figure 1. Sum of expected total number of events in treated and untreated](image-url)
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TITLE: Survivor Net: Developing a Breast Cancer Survivorship Care Plan Template for a Safety Net Hospital

BACKGROUND & OBJECTIVE: Leading oncology professional societies and accrediting agencies recommend providing survivorship care plans (SCPs) at the end of primary cancer treatment to improve continuity of care and address survivors' needs. However, SCPs have yet to be broadly adopted. Despite the existence of SCP templates, the primary implementation barrier is the time spent by providers completing them. We are attempting to reduce that burden and maximize usefulness to patients by designing an SCP template that is tailored to a safety net hospital that provides care to vulnerable populations.

PARTICIPANTS & METHODS: We conducted in-depth (30-60 minute) individual interviews with physicians and nurses who treat breast cancer survivors in a safety net hospital. We conducted two focus groups with women within 4 months to 2 years of completing primary breast cancer treatment. The interviews and focus groups inquired about common post-treatment survivorship concerns and opinions about SCPs (including specific templates, timing and delivery). We conducted a review of existing SCP templates and recommendations, gathering over 200 clinical data fields from which we selected those that best met clinic needs. We drafted our SCP template from the chosen fields, formatting them such that a majority (>70%) include drop-down options for easier completion.

RESULTS: Clinicians (n=8) were largely in favor of SCPs but unfamiliar with them and concerned about the time and training involved. Breast cancer survivors (n=12) reported unmet needs after completing treatment, had favorable views of SCPs and the majority preferred more comprehensive templates. In response to stakeholder input, we drafted 1) an SCP template with the comprehensive introduction and follow-up care recommendations preferred by survivors, and the brief treatment summary and drop-down options preferred by clinicians; and 2) a manual to standardize SCP completion and delivery.

CONCLUSIONS: Breast cancer survivors and clinicians provided complementary perspectives that we used to inform development of an SCP intervention. An SCP intervention (template and implementation manual) were tailored for use in a new safety net hospital survivorship clinic. The SCP intervention will be piloted in a feasibility study with breast cancer survivors in that clinic and, if successful, it will inform how to develop SCPs for other cancers.

CLINICAL IMPLICATIONS: The American College of Surgeons’ Commission on Cancer (CoC) has included in its new standards for patient-centered care that by 2015 all accredited institutions must deliver SCPs to patients when they complete primary cancer treatment. Our study is investigating how a CoC-accredited safety net hospital can do so feasibly.

RESEARCH IMPLICATIONS: Despite the abundance of recommendations for the use of SCPs in standard clinical practice, there is limited empirical evidence of their feasibility and efficacy. This study contributes to that growing body of research, focusing on ways SCPs can be tailored to meet local needs.

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Title: Separating from Their Children as a Risk Factor for Mental Health of Pregnant and Parenting Young Women in Foster Care

Summary: Research suggests that female foster youth are at high risk of becoming pregnant and giving birth, and it has been suggested that policymakers should consider limiting the parental authority of immature minors. One in four of foster women who have given birth are separating from their children at present.

Objective: The study investigates into the mental health of pregnant and parenting young women in foster care, and the effects of separating from their children. Then, the study also discusses on the decision making on the rights of teen parents.

Sample: About 600 foster women in Illinois who have given birth and monitored by the Teen Parenting Service Network program.

Methods: The study evaluates mental health in the framework of child and Adolescent Needs and Strengths (CANS), which is collected regularly by Illinois Department of Children and Family Services and monitored by Mental Health Services & Policy Program in Department of Psychiatry and Behavioral Sciences. Data from multiple years is centered by the time of birth-given events, and the teens are controlled by their demographic characteristics and mental status before birth-given.

Results: Those teens who are separating from their children have higher mental needs and less strengths comparing to foster teens living with their children, both before birth-given and within 3 years after. However, when controlling by their mental needs before birth-given, limiting the parental rights does not have significant negative effects on their mental health development, and could help on building some mental strengths.

Conclusions: Decision-making to limit rights of teen mother in foster care should be carefully made on individual basis. And CANS scores before birth-given can offer a relative solid basis.
Title: Using computational linguistics and knowledge engineering towards an automatic fidelity and monitoring system for Familias Unidas

Summary: The fidelity monitoring and feedback are critical parts of implementing effective interventions. However, these are also resource intensive for the research team in efficacy/effectiveness trials, and often unmanageable in the implementation stage. We present a proof of concept of a computational method that measures fidelity to the Familias Unidas intervention. Familias Unidas is a family-focused prevention intervention targeting externalizing behaviors among Hispanic youth. To the best of our knowledge, this is the first work that uses speech analysis, knowledge engineering, and computational linguistics to measure fidelity.

Objective: Our goal is to develop a fidelity and monitoring system for a behavioral program such as Familias Unidas.

Sample: We use 40 audio tapes from the effectiveness trial of a parent-training intervention, Familias Unidas.

Methods: The existing method for rating fidelity to Familias Unidas requires expert raters to watch videos of a recorded sessions. We present a novel semi-automatic method to rate fidelity in these sessions. This method uses a) speech recognition and b) machine learning to rate utterances spoken by the facilitator. The algorithm searches for linguistic patterns associated with high or low fidelity. These patterns were developed by a process of knowledge engineering with experts on fidelity to Familias Unidas. We demonstrate the first step of such algorithm on an initial set of Familias Unidas intervention session.

Results: We tested our system and obtained (step a) 72% accuracy from automatic transcription as compared to human generated transcripts, and (step b) 66% accuracy from automatic fidelity ratings against the human expert ratings. Examples of the output will be presented.

Conclusions: This work represent an initial step towards reducing the high cost and potentially improving the quality of fidelity ratings of behavioral interventions.
Perspectives on family building among straight and sexual minority patients after cancer

Summary: Fertility concerns have been shown to be particularly important to young female cancer survivors (<40 at diagnosis). However, the topic has been conducted primarily with straight populations and often excludes men. This study focuses on how heterosexual and sexual minority men and women think about potential fertility loss and family building.

Objective: To draw attention to the experiences of young female cancer survivors in order to inform healthcare providers of how to better address the needs of other young female cancer patients facing similar fertility-related concerns associated with a cancer diagnosis.

Sample: Participants (n=55, Straight: men (n=15) women (n=18), Sexual minority: men (n=7) women (n=15); age range 16-42) were recruited through a variety of sources, predominantly social media focused on young adult cancer survivors.

Methods: Participants completed a single audio-recorded telephone semi-structured interview discussing knowledge, attitudes, and concerns about cancer-related fertility, the effect of cancer on their romantic partnerships and dating, and achieving parenthood in the future. They were compensated with a $20 gift card. Thematic analysis was conducted with two researchers independently coding the audio recordings and discussing the emerging themes with a third researcher until consensus was reached.

Results: Straight women (n=14), straight men (n=15) and bisexual women who partnered primarily with men (n=8) stated that, prior to diagnosis, they thought about parenthood in a "traditional way" – heterosexual marriage and having biological children. Many women who partner with women (lesbian (n=4) and bisexual (n=2)) and gay men (n=6) reported they had more inclusive and flexible ideas about parenthood. Straight men and women endorsed adoption primarily if they had a family history of adoption or as a solution to infertility. Members of all groups felt a sense of loss learning about reduced fertility. However, only one sexual minority woman and two sexual minority men mentioned they were unsatisfied with the information they were given about potential fertility loss, whereas six straight men and half of the straight women mentioned this.

Conclusions: Sexual minority cancer survivors report different family building goals and less distress when faced with cancer-related infertility compared to straight women. Focusing on multiple means of family building rather than infertility post-cancer may lessen distress for those who cannot have biological children.
Title: Relationship of Meeting Physical Activity Guidelines with Quality Adjusted Life Years

Summary: Greater physical activity level is associated with significantly higher Quality Adjusted Life Years (QALYs) even when guideline levels are not fully attained. Interventions to increase physical activity could be a cost effective way to improve overall quality of life.

Objective: The QALY is a standard outcome measure used in cost-effectiveness analyses. This study investigates whether attainment of federal physical activity guidelines is associated with higher QALY estimates among adults with or at increased risk for knee osteoarthritis (OA).

Sample: This is a prospective study of 1794 Osteoarthritis Initiative participants with or at high risk for knee OA.

Methods: Physical activity was measured using accelerometers at baseline. Participants were classified as 1) Meeting Guidelines (≥150 minutes of moderate-vigorous [MV] activity per week acquired in bouts ≥10 minutes), 2) Insufficiently Active (≥1 MV bout[s]/week but below guideline), or 3) Inactive (0 MV bouts/week). A health-related utility score was derived from participant responses to the SF-12 Health Survey at baseline and 2 years later. QALY was calculated as the area under utility curve over 2 years. Relationship of activity level to median QALY adjusted for socioeconomic and health factors was estimated using quantile regression.

Results: Relative to the Inactive, median QALYs over two years were significantly higher for the Meeting Guidelines (0.110, 95% confidence interval [CI] 0.066-0.156) and Insufficiently Active (0.058, 95% CI 0.028-0.088) groups controlling for socioeconomic and health factors.

Conclusion: We found a significant graded relationship between greater physical activity level and higher QALYs. Using the more conservative estimate of 0.058, if an intervention could move someone out of the Inactive group and costs <$2900 over two years, it would be considered cost effective. Our analysis supports interventions to promote physical activity even if recommended levels are not fully attained.
Title: Intersections of School-based Violence & Victimization for Sexual Minority Youth

Summary: The recent inclusion of bullying and harassment items in school-based, representative surveys have made it possible to examine how bullying and relates to experiences of violence for gay, lesbian, and bisexual (GLB) youth. GLB youth consistently report higher rates of victimization at school than their heterosexual peers. In a limited number of studies, GLB youth have also reported higher levels of violence involvement, like carrying a weapon to school and fighting. Additional research is needed to better understand the relationship between bullying and violence for GLB youth.

Sample & Methods: Data from the 2011 Chicago Youth Risk Behavior Survey (YRBS) were used to examine the relation between GLB victimization and violence in school. Participants were 954 males (47.5%) and 941 females (51.6%) who ranged in age from 12 to 18 years (mean=15.8, SD=1.3). 7.8% of the sample described themselves as gay, lesbian, or bisexual (GLB). Nearly 45% of the sample identified as African American, 8.8% as Caucasian, 39.4% as Hispanic (including Hispanic Multi-racial), and 4.4% as Other. Analyses utilized weights provided by the CDC. Victimization was indicated with two separate items, “Have you been bullied in the last 12 months” and “Have you been harassed for being labeled as GLB in the last 12 months.” Violence involvement was measured via a 2 item Fighting scale (α =.7) and a 3 item Weapon Carrying scale (α=.732) Covariates included Race, Age, and dichotomized sexual orientation. Logistic regression was utilized and analyses were split by birth sex.

Results: GLB Males and Females reported higher rates of victimization on both items of interest. In addition, GLB youth of both sexes reported higher rates of violence involvement on both Fighting and Weapon Carrying scales when controlling for Race and Age. Additional analyses on the relationship between victimization and violence involvement revealed significant differences by birth sex. Chi-square analysis found that GLB males who had been bullied or harassed were more likely to report having carried a weapon (p<.001) and more likely to report fighting (p<.001) than GLB males who had not been bullied. A different pattern emerged for GLB females, such that GLB females who had been bullied were less likely to report carrying a weapon (p<.001), but more likely to report fighting (p<.001) than their non-bullied counterparts. Conversely, GLB females who had been harassed were more likely to report carrying a weapon (p<.001) but less likely to report fighting (p<.001).

Conclusions: These results indicate that GLB youth who experience bullying and harassment for their perceived sexual orientation may also engage in higher rates of violence-related behaviors than their non-bullied peers, although the relationship differs by birth sex. This work points towards the need for broader consideration of how anti-bullying policies can be developed to address the complex needs and realities of all students, including GLB individuals.
**Title:** Keep Your Heart Healthy: Engaging Medical Students to Reduce Cardiovascular Disease Risk in Low Income Communities

**Background:** Cardiovascular diseases (CVD) are largely preventable yet remain leading causes of morbidity and mortality in Chicago, especially in minority neighborhoods. Medical schools can engage students to conduct community CVD screening and consultation to reduce risks in low income Chicago communities with high CVD mortality rates. The 5-month Keep Your Heart Healthy (KYHH) pilot aimed to engage medical students in community CVD risk screening and reduction.

**Objectives:** KYHH is a collaboration of the Feinberg School of Medicine, Chicago Department of Public Health, and community partners. The pilot aimed to engage medical students assessing and reducing CVD risks in two low-income Chicago communities through screening and consultation. We report on the pilot, August 1 – December 31, 2013.

**Sample:** A total of 54 medical students volunteered, including 26% of the first-year class. A convenience sample of adults was recruited by community health workers in primarily Hispanic (Humboldt Park) and African American (North Lawndale) Chicago communities.

**Methods:** Medical student volunteers, trained by Feinberg faculty, conducted interviews to assess CVD risk by participant self report, measured body weight and blood pressure, and provided brief, personalized counseling based on the American Heart Association's "Life’s Simple 7." Participants with blood pressure ≥ 140/90 were referred to their primary care providers or a Federally Qualified Health Center. Randomly selected participants provided post-event survey feedback.

**Results:** Students (mean = 6.8 / event) staffed 31 events. Participants from Humboldt Park (80.7% Hispanic/Latino) were older (49.7 vs 44.9 years) and more often men (40.9% vs 31.7%) than North Lawndale participants (93.0% African American/Black).

Participants commonly had at least one (90%) CVD risk factor. Self-reported medical history in Humboldt Park and North Lawndale respectively included diabetes (22.8%, 9.5%), hypertension (40.4% vs 34.2%), smoking (33.5%, 26.9%), heart disease/attack (7.0%, 6.0%), and stroke (4.33%, 1.4%). The participants rarely (11.7%) achieved daily dietary recommendations for fruit, vegetable, and salt intake. Obesity (47.8%, 53.2%) and elevated blood pressure (23.8%, 28.1%) were common.

Randomly selected participants (n=504) provided positive feedback (e.g., 99% would recommend KYHH to others). Students (n=22) were somewhat/extremely satisfied (100%) with their experience.

**Conclusion:** CVD risk factor burden is high in low income Chicago communities. KYHH is a model for engaging medical students to advance community health by conducting personalized screening and consultation. Early efforts have been well received by community residents.
Title: Context-sensitive training strategies: the intended benefits versus the risks incurred

Objective: The perception of risk and benefit is an essential factor in decision-making. Especially under conditions of time pressure, people may preferentially base decisions on perceptions of risks and benefits, an affect heuristic, rather than analytic processing. Using a simulation-based emergency airway curriculum, we tested the hypothesis that explaining risks and benefits of airway techniques would influence decision-making.

Methods: Cohorts from two sequential years were compared. The primary outcome measure was the initiation of supraglottic airway and cricothyroidotomy techniques in a simulated cannot-ventilate, cannot-intubate scenario during three evaluation sessions. After a baseline evaluation and didactic lecture, residents in each cohort received initial practical training in either surgical cricothyroidotomy (CRIC Group) or supraglottic airway (SGA Group). After the mid-test, the groups switched to receive the alternate training. The Technical (T) cohort received technical training only, whereas the Technical + Risk Benefit (T+RB) cohort also received an explanation of risks and benefits of each airway technique.

Results: We analyzed the initiation of the four sequential emergency airway procedures between cohorts at the final evaluation. There were no differences between cohorts for mask ventilation, direct laryngoscopy, and supraglottic airway. However, the T+RB cohort initiated far fewer cricothyroidotomies than the T cohort (P=0.000). We further analyzed each group and evaluation session between each cohort to assess any group-based or training sequence differences. With regard to supraglottic airway initiation, there were no differences between the cohorts for either the SGA or CRIC Groups at any evaluation session. Therefore, this analysis paralleled the findings of the overall cohort. With regard to cricothyroidotomy initiation, the SGA Group in the T+RB cohort initiated significantly fewer cricothyroidotomies at the final evaluation than the SGA Group of the T cohort (P=0.002). The CRIC Group in the T+RB cohort initiated significantly fewer cricothyroidotomies than the CRIC Group of the T cohort at both mid (=0.012) and final evaluation (P=0.012).

Conclusion: The chief finding was a suppressive effect of providing a risk-benefit context to the initiation of cricothyroidotomy. Although cricothyroidotomy should have been initiated in all cases, the addition of a risk-benefit context to training in the T+RB cohort resulted in a reduced initiation of this technique. Educators must incorporate an understanding of inducing risks judgments during training for critical events.


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Abstract should include the following subheads as appropriate: Title, Summary, Objective, Sample, Methods, Results, Conclusions. Limit one page. Formatting follows:

Title: Reasons for Emergency Department Use by Geriatric Patients
Summary: Older adults are a growing segment of the US population and are more likely to use the emergency department (ED) than younger adults. As geriatric ED visits increase, specialized geriatric protocols are being developed and dedicated geriatric EDs are being built. Understanding the reasons for ED use in this population is important to ensure that these efforts are accommodating their needs. Using a quantitative survey, geriatric patients reported preference for the ED as more important to them in deciding to use an ED than younger adult patients. Younger adult patients reported ED affordability as more important to them than geriatric patients did.
Objectives: To describe and compare reasons for using the ED among geriatric and non-geriatric patients.
Sample: The study population was ED patients aged 18 and older. Patients >= age 65 were matched by triage score to non-geriatric patients at a ratio of 1:2. Patients were excluded if they were non-English speaking or demonstrated cognitive impairment based on a validated six-item screener.
Methods: A prospective, cross-sectional study of ED patients using a research assistant administered survey. Patients rated 21 statements about reasons for their ED use on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Based on a prior study, the survey statements were categorized into 5 factors of reasons for ED use: medical necessity, ED convenience, ED preference, limitations of insurance, and ED affordability. The total score for each factor was calculated, and the factor scores for geriatric and non-geriatric patients were compared using the Wilcoxon-Mann-Whitney test. The scores were then divided by the number of questions for each factor for easier reporting.
Results: 250 patients were approached for participation and 172 have participated: 58 geriatric and 114 non-geriatric. For geriatric patients the median score and interquartile range (IQR) for each domain were: ED preference: 4.0 (3.0-4.8), medical necessity: 3.5 (3.0-4.2), convenience: 3.2 (2.6-3.8), limitations of insurance: 1.3 (1.0-2.0), and affordability: 1.0 (1.0-1.5). For non-geriatric adults the median scores were: medical necessity: 3.5 (2.8-4.3), ED preference 3.5 (2.8-4.3), convenience: 3.1 (2.6-3.6), limitations of insurance 1.67 (1.0-2.0), affordability 1.5 (1.0-2.0). Geriatric patients were more likely to rate ED preference higher (p=0.035), and affordability lower (p=0.048) compared to younger patients.
Conclusion: Geriatric patients and younger adults have similar reasons for using the ED. However, geriatric patients rate preference for ED care higher and affordability lower than younger patients. Further research should evaluate the specific aspects of ED care that patients prefer to continue to improve acute care for geriatric patients in both the ED and outpatient settings.

(In order to be considered for inclusion in the 2014 Research Day program, ALL abstracts must be in Arial, 11 pt font, and must fit one page. Any abstract exceeding criteria will be sent back for revision. Thank you.)
Title: The Prevalence and Distribution of Childhood Asthma and Food Allergy in Chicago Public Schools

Objective: This study aimed to determine the prevalence and distribution of asthma and food allergy in Chicago Public Schools (CPS).

Methods: Demographic and health data were extracted from the CPS database. Asthma and food allergy cases were identified. The prevalence of asthma and food allergy was calculated, geographic variability was determined, and multiple logistic regression models were computed. Home addresses were geocoded to create maps of case counts per community area.

Results: Of the 406,658 students, 84.6% were low-income and 91.0% a racial/ethnic minority. Over 18,000 (4.5%) students were identified with asthma, and over 4,000 (1.0%) with food allergy. Most students with asthma and food allergy were male (58.3% and 57.0%, respectively), 6-10 years old (36.2% and 46.3%, respectively), and Black (52.3% and 36.8%, respectively). Most asthmatic students resided on Chicago’s West Side (35.0%) and most food allergic students on the North-Northwest Side (47.3%). Of the students with asthma, 9.3% had a food allergy; of the food allergic students, 40.1% had asthma. Asthma odds were significantly higher among Black (OR=2.3, 95% CI: 2.2-2.4, p<0.01) and Hispanic (OR=1.3, 95% CI: 1.2-1.4, p<0.01) versus White students. Food allergy odds were significantly higher among Black students (OR=1.1, 95% CI: 1.0-1.3, p<0.05) and significantly lower among Hispanic students (OR=0.8, 95% CI: 0.7-0.9, p<0.01) versus White students. Asthma and food allergy odds were significantly lower among all other geographic regions versus the North-Northwest Side (p<0.01).

Conclusion: Asthma and food allergy are under reported in CPS, and each condition impacts a different demographic and geographic population.
Abstract should include the following subheads as appropriate: Title, Summary, Objective, Sample, Methods, Results, Conclusions. Limit one page. Formatting follows:

Title: Parent-Reported Pediatric Food Allergy Quality of Care

Summary: Childhood food allergy is a serious and growing health problem, affecting 8.0% of children in the US. A strong relationship with care providers and quality care are essential to ensuring proper food allergy management. Previous research has demonstrated the link between parent-physician communication and adherence to treatment recommendations. This study analyzes the parent-reported quality of care received by families with children having a food allergy.

Objective: The objective of this study was to evaluate parent satisfaction and quality of care received by families of children with food allergy from both pediatricians and allergists.

Sample: 940 families of food-allergic children were included in a family-based cohort.

Methods: Food allergy was determined by objective symptoms developing within 2 hours of ingestion, corroborated by skin prick test/specific IgE. Parents were asked questions about satisfaction and quality of care. Univariate and bivariate analyses were used to describe health services that the parents reported.

Results: Satisfaction with care and trust in physicians was high. Nearly all parents reported that pediatricians and allergists treated them with courtesy and respect, listened carefully, and treated their views with respect. Most parents also reported that their child's physicians explained food allergies in a way they could understand and reported that they showed concern for the impact of food allergy on the family. Management steps were also assessed. Parents reported that 36% of pediatricians and 71% of allergists explained when to use an epinephrine autoinjector. Fewer pediatricians (17%) and allergists (46%) demonstrated how to use the device. A written food allergy action plan was provided by 20% of pediatricians and 56% of allergists. 23% of parents reported that pediatricians explained their child's long term prognosis and 61% reported the same of allergists. Mothers largely reported more pessimistic perceptions of the quality of care they received while fathers generally recalled slightly higher perceptions of physician concern for impact and explanation of food allergy (p<0.05). Overall, there was strong within family agreement on perception of healthcare quality.

Conclusions: Parents of children with food allergies feel cared for and respected by their child's doctors. Ensuring proper management of food allergy by pediatricians and allergists is critical. Increased education in healthcare settings around recognizing symptoms of an anaphylactic reaction and how and when to use an epinephrine autoinjector are needed. A food allergy action plan and counseling of prognosis are also vital.

In order to be considered for inclusion in the 2014 Research Day program, ALL abstracts must be in Arial, 11 pt font, and must fit one page. Any abstract exceeding criteria will be sent back for revision. Thank you.
Title: Knowledge of Human Papilloma Virus (HPV), Cervical Cancer, and HPV Vaccination amongst African American Women

Summary: HPV causes 99.7% of cervical cancer cases. Approximately 12,000 women in the U.S. are diagnosed with cervical cancer each year and 4,000 women will likely die from it. Vaccines against HPV are available. Vaccination rates, however, differ by socioeconomic status, race and ethnicity, with African American women having the lowest HPV vaccination rates and the highest cervical cancer mortality.

Objective: To determine the HPV, cervical cancer, and HPV vaccination knowledge amongst African American women.

Sample: A total of 242 completed surveys were obtained from African American women in a community fair in Chicago, IL and 215 met the eligibility criteria.

Methods: A convenience sample was recruited from attendees of a community fair. Eligible participants were English-speaking African American women aged 18 to 70 that completed >50% of the survey. Participants were given a survey to assess knowledge of HPV, cervical cancer and HPV vaccination. A cumulative knowledge score was determined for each participant.

Results: 242 surveys were obtained and 215 met the inclusion criteria. The mean age of participants was 48.3 ± 12.1 years (mean ± SD). 87% of participants were at least high school graduates. However, 41% had a household income <$20,000. The mean knowledge score for HPV and cervical cancer questions answered correctly was only 12.3 ± 4.2 with a maximum possible score of 28. The Chi-square analysis showed that education level (p=.007), household income (p=.010), and having a child that had been offered the HPV vaccine (p=.041) were associated with adequate knowledge of HPV, cervical cancer, and HPV vaccination. However, overall 73% of participants were not able to answer 18 out of the 28 (~65%) questions correctly.

Conclusion: Education level, household income, and having a child that had been offered the HPV vaccine are factors associated with knowledge of HPV, cervical cancer, and HPV vaccination amongst African American women. However, most participants, including the well-educated and those with higher income, demonstrated a lack of HPV/cervical cancer knowledge indicating that this is not a knowledge deficit isolated to the poor or to those with low education but is a deficit amongst African American women in general.
Abstract should include the following subheads as appropriate: Title, Summary, Objective, Sample, Methods, Results, Conclusions. Limit one page. Formatting follows:

Title: Text messaging hotlines: an innovative way to educate teens about sexual health

Objective: Text messaging is the most utilized form of communication among teens. Many teens lack access to reliable information about sexual health. The purpose of this project was to create a texting hotline to provide accurate sexual health information to teenagers and to examine its use.

Methods: The authors created In Case You’re Curious (ICYC), which answers sexual health questions via text messaging. The program used a web-based tool to track the text messages.

Results: From September 2010 – October 2012, ICYC received 3,777 text messages from 1,121 users. The number of text messages more than doubled between the program’s first and second year. Fifty-seven percent of the questions in the first year were about sexual acts, sexually transmitted diseases, birth control, or pregnancy.

Conclusions: ICYC has grown steadily in its first two years of existence and has many repeat users. Texting hotlines can effectively engage teenagers about health issues.
Title: Motherhood and substance use disorders: A longitudinal study of delinquent females

Objective: This study aims to (1) describe the prevalence and patterns of pregnancy and active parenting (caretaking) among female juvenile detainees as they age into adulthood; and (2) examine the association between pregnancy, caretaking and periods of substance use disorder as youth age.

Sample: Participants are a stratified random sample of female detainees recruited from intake into the Cook County Juvenile Temporary Detention Center in Chicago, Illinois from 1995-1998 (N=657), as part of the Northwestern Juvenile Project. The sample was racially and ethnically diverse: African American (65.5%), Hispanic (20.9%) non-Hispanic White (13.6%) and Other race/ethnicity (0.2%). The mean age was 15.0 years.

Methods: Female clinical research interviewers conducted structured clinical interviews at the detention center within 2-3 days of intake. Participants were located and reinterviewed, wherever they were living, up to 9 times over the next 12 years. Past–year substance use disorders were assessed using structured diagnostic interviews. We summarize prevalence rates of pregnancy and caretaking at 4 time points: Baseline, and 3 years, 5 years, and 12 years after baseline. For longitudinal analyses examining the association between pregnancy or caretaking and substance use disorders we used all available interviews. Using generalized estimating equations (GEEs), we estimated the association between substance use disorder (any substance use, alcohol use, and drug use disorders) and three characteristics of motherhood: (1) current pregnancy, (2) pregnancy since last interview, and (3) caretaking a child.

Results: At baseline, one quarter of females reported ever having been pregnant. Three years later, nearly three quarters of females had been pregnant, and by 12-years later, 90%. One third of females had given birth by the age of 18. Few females were caretakers of children at baseline; however, nearly half were caretakers 3 years later. Twelve years after baseline, three quarters of women were actively parenting children. Ten percent of women had at least one child removed from their home by the Department of Children and Family Services. Nearly half of females had a substance use disorder at baseline. Three years later, one quarter had a substance use disorder, and 18% had a substance use disorder twelve years after baseline. Females who had not been pregnant since their last interview were more likely to have a drug use disorder in the past year than those who had been pregnant (OR=1.5, 95% CI=1.1, 2.0). Neither recent nor current pregnancies were significantly associated with alcohol use disorder. There was no significant association between current pregnancy and drug use disorder. Females without caretaking responsibilities had nearly twice the odds of having any substance use disorder (OR=1.91; 95% CI=1.57, 2.31), an alcohol use disorder (OR=1.80; 95% CI=1.37, 2.37), and a drug use disorder (OR=1.99; CI=1.60, 2.47) as females who were caretaking a child.

Conclusions: Delinquent females are likely to become caretakers at a young age. Pregnancy was associated with less risk of a substance use disorder. Actively parenting a child was significantly associated with a decrease in both alcohol and drug use disorder. Caretaking may partly explain reduced externalizing problems among delinquent females as they age.