#19

THE IMPACT OF ACUTE RELATIONSHIP INSULTS ON TRUST AND PRO-RELATIONSHIP BEHAVIOR WITHIN ADOLESCENT ROMANTIC RELATIONSHIPS: A SYSTEMS APPROACH

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Purpose: Trust is an essential component of adolescents' interpersonal romantic relationships. There is evidence that adolescents will disregard partner behaviors that should weaken trust and consequently the stability of the relationship. Thus a young woman faced with a critical relationship event or insult within their relationship, such as perceiving to be at risk for an STD or perceiving their partner has other sex partners may increase pro-relationship behaviors (e.g. more time or sex with partner) to maintain levels of trust. The goal of this study was to use a systems science approach to examine how adolescent young women adapt to a relationship insult. Specifically, we examined whether a relationship insult is associated with a decrease in trust and subsequently whether adolescent young women increase their pro-relationship behaviors following the insult.

Methods: A prospective cohort of females (N=122), aged 16-19 at baseline, were recruited from clinics and community venues in Baltimore, MD and completed daily questionnaires on feelings and risk perceptions about each current sex partner on a cellular phone continuously for up to 18 months. Participants confirmed partner initials regularly to ensure the same partner was followed over time. As overall mean levels of trust were high, the data were coded to indicate any decrease in trust compared to the previous week. A relationship insult was defined as either perceiving partner put her at risk for an STD or perception that partner had other sex partners in a week. Pro-relationship behaviors were coded as any of the following in the week: more time spent with partner than previous week, sex with partner, or gift from partner. Time was anchored at the week of the insult. A series of time-lagged models were used. GEE was used to account for correlation among repeated measures within relationships. IRB approved the study protocol.

Results: The mean level of trust was significantly lower within relationships in the week and subsequent two weeks following an insult compared to weeks without an insult [2.95 vs. 3.54, p<0.001]. Experiencing an insult in the week was associated with a 3-fold increased odds of having a drop in trust in the same week [OR=2.98, 95%CI: 2.30, 3.86], experiencing an insult in the previous week was associated with an almost 20% decreased odds of drop in trust in the current week [OR=0.82, 95%CI: 0.68, 0.99]. Experiencing a drop in trust was associated with a 22% decreased odds of pro-relationship behavior in the following week [OR=0.64, 95%CI: 0.62, 0.96] and 21% decreased odds of pro-relationship behavior two weeks after the insult [OR=0.79, 95%CI: 0.65, 0.95].

Conclusions: These data uniquely show that trust is impacted following an acute relationship insult and that pro-relationship behaviors are not evident in the two weeks following the insult, indicating that acute relationship insults initiate a pathway toward relationship dissolution. Future work will track cycles of insult, trust failure, trust rebound, and relationship termination within adolescent romantic relationships and whether pro-relationship behaviors are characteristic of a subgroup of participants.

#20

THE LONGITUDINAL RELATIONSHIP BETWEEN FUTURE ORIENTATION AND SUBSTANCE USE AMONG YOUTH WITH SERIOUS CRIMINAL OFFENSES

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Purpose: Substance use in adolescence can have both immediate and long-term effects on development. Youth involved in the juvenile justice system are particularly vulnerable to such consequences, including chronic use into adulthood. Future orientation (FO) (a young person's goals, expectations out of life, and ability to plan for the future) is a potentially important modifiable factor to influence substance use. This study uses secondary data analysis to assess the relationship between FO and substance use in a sample of seriously offending youth. We hypothesized that higher FO scores would be correlated with smaller changes in substance use over time.

Methods: Data were from the first three years of the Pathways to Desistance study, a freely accessible data set following youth adjudicated of serious offenses in two North American cities. Youth were ages 14 to 18 at time of recruitment. Multiple previously validated survey items were chosen from the existing data to create a multidimensional, theoretically and psychometrically based measure of FO. We ran mixed level cross-lagged panel models to assess the relationship between FO score, change in FO score, amount of substance use, and amount of change in substance use (tobacco, marijuana, hard drugs) over the 3 year follow up period. Adjusted models accounted for different sites, sex, age, ethnicity, parental education, and proportion of time in the recall period spent in a facility.

Results: In a sample of 1354 youth, there was a significant bidirectional relationship between FO and all substance use outcomes. The relationship was maintained in adjusted models, with higher previous time point FO scores showing smaller increases in substance use at future time points. Adjusted beta coefficients for tobacco, marijuana and hard drug use were, -0.055, -0.131 and -0.096 respectively. All values were significant at $\alpha = 0.01$. Previous amount of drug use for all outcomes also influenced future time point FO. Those who had the most drug use at previous time points also showed smaller increases in FO at future time points; adjusted tobacco (beta=-0.037), marijuana (beta=-0.038), and hard drug use (beta=-0.047).

Conclusions: Future orientation and substance use predict each other in this sample of serious adolescent offenders. The relationship is bidirectional with FO predicting slightly larger change in substance use score, than the change in FO score predicted substance use. These results support the conclusion that for high risk youth where results can sometimes be difficult to obtain, there is a role for encouraging increases in FO as a modifiable factor associated with positive changes in substance use trajectories; and simultaneously, a potential role for substance use treatment to heighten FO, and thus positive youth development overall.

#21

PARENTS' IMPLICIT AND EXPLICIT ATTITUDES TOWARDS CHILDHOOD OBESITY

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Purpose: Pediatric obesity is estimated at 17% in the United States, with associated medical problems that negatively impact youths during childhood and adolescence and persist into adulthood. Psychosocial costs of pediatric obesity (e.g., low self-esteem, weight-related teasing) are also profound. Weight stigma—discriminatory attitudes and actions against individuals with obesity—involves subtly or overtly blaming individuals for obesity and attributing global negative traits to individuals because of obesity, such as seeing them as "stupid" or "lazy." Weight stigma has been documented across many sources, including the media, health providers, and children themselves. The current study examined whether parents had implicit and explicit bias against children with obesity and explored whether certain parental characteristics were associated with negative biases.

Methods: Parents (N=271; n=80 fathers, n=191 mothers) of children 5-15 years old and recruited from the Mechanical Turk website completed an adapted version of the Attitudes Towards Obese Persons (Allison, Basile, & Yuker, 1991) measure of explicit attitudes towards children with obesity and the Implicit Association Test (IAT) of implicit attitudes towards children with obesity. IATs ask participants to classify adjectives into larger categories. Conceptually, individuals will have more correct classifications in "matched" conditions (when categories match implicit bias; in this version of the IAT, for example, "fat" and "bad" in one column and "thin" and "good" in another) than "mismatched" conditions (when categories are incongruent with implicit bias, for example, "fat" and "smart" in one column, and "thin" and "stupid" in another). Participants completed two practice conditions (flower/insect/good/bad, matched and mismatched), and four counterbalanced test conditions (thin/fat/good/bad, matched and mismatched; thin/fat/smart/stupid, matched and mismatched). IAT scores were the number of items correctly categorized within an allotted 20 seconds per task. The Yale institutional review board reviewed and approved this study.

Results: Parents demonstrated implicit bias against children with obesity: they correctly categorized more words in the matched fat/bad task (M=14.50, SD=4.24) than mismatched fat/good task (M=10.65, SD=3.17). Likewise, parents correctly categorized more words in the matched fat/stupid task (M=13.74, SD=4.20) than mismatched fat/smart task (M=10.74, SD=3.43). One sample t-tests indicated a significant percent loss in correct categorizations between the matched and mismatched tasks for good/bad (p<.001) and smart/stupid (p<.001). Parent gender, parent obesity, parent age, child gender, child obesity, and child age were all not significantly associated with parents' implicit attitudes. Parent obesity was significantly associated with less explicit bias compared with parent healthy-weight (p=.005); other parent and child variables were not associated significantly with explicit attitudes.

Conclusions: Weight stigma can have a devastating psychosocial impact on youths. The current study found that parents demonstrate implicit bias against childhood obesity across varied demographic

characteristics (including personal obesity and having a child with obesity), and only parent obesity was associated with explicit bias. Interventions to reduce widespread weight stigma are urgently needed to attenuate implicit biases and to improve the resilience of children with obesity to cope with discriminatory attitudes and actions.

#22

TRENDS IN RECEIPT OF BUPRENORPHINE AND NALTREXONE FOR OPIOID USE DISORDER AMONG ADOLESCENTS AND YOUNG ADULTS, 2000-2014

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Purpose: Opioid use disorder (OUD) frequently begins in adolescence and young adulthood. Intervening early with medication-assisted treatment is recommended by major professional organizations. Yet, no prior national studies have examined the extent to which adolescents and young adults (collectively, "youth") with OUD receive recommended pharmacotherapy with buprenorphine or naltrexone. We sought to identify trends in and factors associated with receiving buprenorphine and naltrexone for youth with OUD in a large US commercial insurance database.

Methods: We identified commercially insured adolescents and young adults of age 13 to 25 years with at least 12 months continuous enrollment who received a diagnosis of opioid use disorder (OUD) at two or more health care visits documented between July 2000 and July 2014. Data were obtained from the Optum database, which included insurance claims for visits to outpatient, inpatient, and emergency department settings. We identified individuals with OUD using International Classification of Diseases, Ninth Edition (ICD-9) codes 304.0 and 304.7. For each month youth had a claim with an OUD diagnosis, we determined whether they were dispensed an OUD medication in the subsequent 3 months. Medications included: (i) buprenorphine or buprenorphine/naloxone, (ii) oral short-acting naltrexone, and (iii) intramuscular extended-release naltrexone. We limited analyses to months after Food and Drug Administration approval for medications introduced during the study period (i.e., after approval of buprenorphine and buprenorphine/naloxone in October 2002, and of intramuscular extended-related naltrexone in October 2010). We first examined time trends in the proportion of youth receiving medications, then identified factors associated with dispensation using multivariable logistic regression. The study was approved by the Harvard Pilgrim Health Care Institutional Review Board.

Results: Among 27,677 youth with OUD, 18,138 (65.6%) were male and 22,222 (87.8%) were non-Hispanic white. Mean age (SD) was 21.2 (2.5) years at the time of first documented diagnosis. Overall, 9,616 (34.7%) were dispensed any medication, with 32.5% of all youth receiving buprenorphine or buprenorphine/naloxone; 5.3%, oral short-acting naltrexone; and 0.3%, intramuscular extended-release naltrexone. Overall, dispensation increased over time but was more common for adults 18-25 years with OUD than for adolescents <18 years (see Figure). Receipt of medication was less likely among females (adjusted odds ratio [AOR], 0.78; 95% confidence interval [CI], 0.74-0.82), non-Hispanic black youth

(AOR, 0.87; 95% CI, 0.76-0.98), Hispanic youth (AOR, 0.80; 95% CI, 0.72-0.90), and adolescents <18 years (AOR, 0.12; 95% CI, 0.10-0.14) relative to males, non-Hispanic whites, and young adults 18-25 years, respectively.

Conclusions: In this first national study of buprenorphine and naltrexone receipt among youth, dispensation increased over time. Although 1 in 3 youth with OUD received recommended pharmacotherapy, there are likely opportunities to expand medication-assisted treatment for young people and significant treatment disparities may exist based on gender, race/ethnicity, and age.

#23

DISCORDANT ADOLESCENT-PARENT DYADS DISCUSS PARTICIPATION IN A HYPOTHETICAL CLINICAL TRIAL: A QUALITATIVE ANALYSIS

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Purpose: Clinical trials often require adolescent assent and parental consent/permission; thus presenting the possibility that dyads may not agree about participation. However, little is known about how this discordance is managed. The purpose of this study is to analyze conversations between adolescents and parents about a hypothetical reproductive health clinical trial in order to understand the management of discordance.

Methods: Adolescents and their parents participated in a study assessing attitudes about clinical trial participation. In individual interviews they were informed about a hypothetical phase 1 microbicide safety study, and asked to rate on a 6 point scale their willingness for the adolescent to participate. Following the individual interviews, a subset of the participants participated in a videotaped conversation about trial participation. For purposes of the current project, only transcriptions from those dyads who held strong discordant opinions were analyzed. Discordance was defined by opposing scores on adolescent and parent responses from individual questionnaires. Prior to taping of the videos, adolescents and parents were unaware of the other's "willingness to participate" score. This selection process resulted in 30 videos averaging 30-minutes in length (range 20 – 45 min). Baseline characteristics of each dyad were described using SAS and coded in NVivo with a thematic framework approach.

Results: The mean age of the 30 adolescents was 15.8 years (SD = 1.09); 70% of adolescents were Hispanic (37% of the interviews were conducted in Spanish); 37% male; and 63% had no sexual experience beyond kissing. One parent was a father; the rest were mothers. The direction of the initial discordance was 12 adolescents who strongly/moderately disagreed about participation (with parents who agreed) and 18 parents who strongly/moderately disagreed about participation (with adolescents who agreed). Baseline characteristics showed the discordant dyads (n = 30) were not different than non-discordant dyads (n = 156) in terms of adolescent demographics (i.e., age, ethnicity, language,

gender, sexual experience). The transcripts varied in the degree to which the initial discordance was evident, with dyads ranging from agreeing with each other immediately (n = 4) to never coming to an agreement (n = 4). When discordance was evident, participants focused on the specific details of the study, often focusing on whether or not the adolescent would be willing to accept the procedures, the perceived need for the adolescent to be sexually experienced and the potential risks of participation. Parents and teens demonstrated a similar range of approaches to resolving the discordance including asking for information and sharing their perspective. Communication styles included interrupting, countering, or being repetitive. Sometimes individuals made it clear that the decision was one's responsibility (adolescents because they are actually doing the study or the parent because they are the parent).

Conclusions: While not all dyads were able to come to a resolution, most did, and serious conflict was not observed. Understanding variations in content and processes to resolve discordance among dyads could lead to interventions to support smooth decision-making about participation in reproductive health clinical trials.

#24

Tobacco Use Trends and Associated Drug and Alcohol Use in Oklahoma Adolescents

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Purpose: In 2007, e-cigarettes were introduced into the US market, and their use has experienced rapid growth. There is concern that e-cigarettes, hailed as a method of harm reduction through use in smoking cessation, may serve as a means of introducing and potentially addicting adolescents to nicotine. This study examines the rates of tobacco use in Oklahoma youth and explores associations of conventional and e-cigarette use with other drug and alcohol use.

Methods: 1,611 questionnaires from the 2015 state YRBS data were analyzed using SASSurveys included items regarding several categories of health-risk behaviors; they were anonymous and confidential. Rates of conventional cigarette use were noted from prior state YRBS data from 2003 onward to assess trends in smoking. Current use of a product was defined as use on one or more occasions during the 30 days prior to survey. "Ever" use of a product was defined as having tried this product in a lifetime. Conventional cigarette use was defined as use of cigarettes, cigars or cigarillos, but did not include e-cigarettes. Lifetime drug use was defined as use of cocaine, inhalants, injection drugs, heroin, methamphetamines, steroids or ecstacy. Adjusted odds ratios were calculated using bivariate and multivariate analyses between conventional and e-cigarette use with other drug and alcohol use, adjusting for age, gender and race/ethnicity. This study was approved by the Oklahoma State Department of Health IRB.

Results: In 2015, 19.2% of adolescent females and 28.0% of adolescent males currently used e-cigarettes in Oklahoma, while 12.3% of adolescent females and 20.0% of adolescent males used conventional cigarettes. 23.77% non-Hispanic Black, 23.1% Hispanic, 28.0% non-Hispanic Native

American, 22.7% non-Hispanic multiple race, and 23.5% non-Hispanic White adolescents currently used e-cigarettes. Since 2003, there was a nearly 50% decline in conventional smoking from 31.2% to 16.2% in Oklahoma. When including e-cigarette use, the overall reduction was a significantly more modest 2% during the study period, from 31.2% of adolescents who reported conventional cigarette use in 2003 to 29.2% who reported conventional cigarette or e-cigarette use in 2015.   Only 61% of adolescents who currently use e-cigarettes smoke the products exclusively. When adjusting for gender, age, and race/ethnicity, teens who use only e-cigarettes had a higher odds than their peers who do not use e-cigarette products to have ever tried marijuana (AOR 3.51, CI 2.42-5.08) or alcohol (AOR 10.27, CI 5.37-19.63), currently use marijuana (AOR 2.68, CI 1.93-3.72) or alcohol (AOR 4.00, CI 2.57-6.23), have lifetime drug use (AOR 1.90, CI 1.06-3.48), and have misused prescription medications (AOR 1.52, CI 1.06-2.16). Similarly, adolescents who currently use conventional cigarettes have higher odds than their peers who do not use e-cigarettes of drug and alcohol use.

Conclusions: While conventional cigarette use is declining, there has been a modest reduction in overall smoking rates over 12 years in adolescents in Oklahoma when accounting for the rise in e-cigarette use. Similar to adolescents who report conventional smoking, adolescents who use e-cigarettes are significantly more likely to have tried or currently use alcohol and drugs than their peers who do not use e-cigarettes.

Sources of Support: None

#25

Young Adults Make Different Health Plan Choices on ACA Exchange than Older Adults
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Purpose: To compare the health insurance marketplace plan choices of young adults (18-34 years) to older adults (35-64 years) in the first two open enrollment periods (OEP) in Washington State.

Methods: Individual-level enrollment data from the Washington Health Benefit Exchange from OEP1 (2014) and OEP2 (2015) were analyzed. The data include 323,072 adult enrollees, of which 27,349 are 18-25 year olds and 56,509 are 26-34 year olds. Young adult enrollees were stratified by age (18-25 years; 26-34 years) and compared to older adult (35-64 years) choices using chi square statistics. Plan choice parameters included plan characteristics (e.g., metal tier), costs (e.g., premiums, premium tax credits, and cost sharing reductions) and enrollment timing (e.g., OEP versus special enrollment period, duration of enrollment, re-enrollment). We also calculated potential out-of-pocket (OOP) expenses for a young adult involved in a car accident who enrolled in the most popular silver plan from OEP2. We present the OOP costs with and without a cost sharing reduction discount, which is applied based on income to silver plans and lowers the deductible, copay and coinsurance.

Results: The most common metal tier selected for all age groups was silver (58.0% for 18-25 years; 55.6% for 26 to 34 years; 54.7% for 35-64 years). Young adults were more likely to choose HMO plans (45.0% for 18-25 years, 44.1% for 26-34 years) than older adults (36.4%, p<0.0001). The average monthly (unsubsidized) premium and deductible paid by young adults in the exchange were $268 and

$2,644, respectively. More 18-25 year olds (58.8%) had incomes below 200% of the federal poverty level (FPL) than 35-64 year olds (43.8%, p<0.0001); their lower incomes correlated with more 18-25 year olds than older adults qualifying for premium tax credits (88.2% vs 86.4%, p<0.0001) and cost-sharing reductions (72.8% vs 59.4%, p<0.0001). Young adults exited the exchange in <12 months (65.5% for 18-25 years; 67.7% for 26-34 years) more commonly than older adults (54.5%, p<0.0001). Fewer young adults re-enrolled in OEP2 (53.6% for 18-25 years; 52.9% for 26-34 years) than older adults (55.9%, p<0.0001). In the car accident scenario, if the young adult received $2,500 of medical treatment, OOP costs would be $2,500 without cost sharing reductions. However, if the young adult had an annual income between $17,655 (150% of FPL) and $23,540 (200% of FPL), OOP costs under the most popular silver plan would be reduced to $1,150 after cost sharing reductions were applied.

Conclusions: Young adult health insurance exchange choices differ from those of older adults. Young adults more often qualified for cost sharing reduction programs that can substantially reduce out-of-pocket costs when seeking care. They were also more likely to have higher rates of turnover and exit the exchanges in less than a year. A better understanding of young adult health plan choices can inform outreach and educational efforts to improve their access to high quality, affordable health insurance, which is critical to the success of the ACA.

Sources of Support: None

#26

Check Up GP: Implementing a co-designed health and lifestyle screening app to improve patient-centred care for young people in primary care
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Purpose: During adolescence and young adulthood a wide range of mental health disorders and risky behaviours can emerge and co-occur. Primary care practitioners (PCPs) are ideally positioned to identify areas of concern as part of young people's routine health care. Technology-based screening tools help PCPs to normalise sensitive issues, guide discussion about risky behaviour, and increase young people's disclosure of sensitive health issues. However, there is a paucity of research into how using these tools affect patient-centred care. Further, despite the known benefits, this technology is not being widely used by PCPs. The aim of this study was to implement a co-designed health and lifestyle screening app, and investigate how it affected the patient-centred care of young people and how PCPs and clinic receptionists integrated using the tool within routine health care.

Methods: A health and lifestyle screening app ("Check Up GP") for young people aged 14 to 25 was developed through a series of co-design workshops with young people, PCPs, parents, and primary care administrative staff. Check Up GP was then implemented within an action research program within one primary care clinic in Melbourne, Australia. Young people in control (treatment as usual) and intervention groups completed an evaluation survey immediately after their consultation. In the intervention phase, young people completed Check UP GP prior to their appointment. The PCPs

reviewed a summary report of issues immediately before seeing the young person. Mann Whitney U tests were conducted to compare control and intervention survey data. At the end of the study, semi-structured interviews were conducted with participating PCPs and clinic receptionists.

Results: 30 young people completed the evaluation survey at control and 85 completed it at intervention. Compared with those in the control group, young people using Check Up GP rated their PCP significantly higher in core components of patient-centred care: communication and partnership (U=849.00, p=.005), personal relationship (U=880.50, p=.009), and health promotion (U=944.50, p=.030). Check Up GP was highly acceptable to young people, with 86% of those who used it concluding it was a 'good idea', and 73% reporting they would like to use the app at least once a year, with a further 22% reporting they would like to use it every time they saw their PCP. PCPs reported that using Check Up GP made them more aware of the complex issues facing their patients, and more motivated to discuss non-presenting health issues. However, PCPs and receptionists identified a lack of time and software integration as barriers for sustained use.

Conclusions: The results show that integrating a health and lifestyle screening app co-designed with all stakeholders into face-to-face regular care can significantly improve and enrich young people's experience of seeing their PCP. The results also provide important insights into the barriers and facilitators of introducing new technology into primary care. Further research is needed to better integrate screening technology into existing clinical software, to investigate how to best support primary care settings to ensure sustained use, and to trial it at a range of clinic types.

Sources of Support: Young and Well Cooperative Research Centre

#27

Relationship between Systems-Related Indicators and Connectivity among Transition Aged Youth in Foster Care

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Purpose: A stable and long-term relationship with an adult is reported as an essential contributor to a successful transition to adulthood for transition aged youth (16-25 years; TAY). A successful transition, or lack thereof, has far reaching effects on a youth's life as an adult. Youth who experience a more successful transition have been shown to have more positive social, financial, educational, emotional, and physical and mental health outcomes than those who do not. This study was designed to explore how system performance indicators measured during Quality Service Reviews are associated with connectivity indicators for TAY.

Methods: This study analyzed data collected by a state child welfare agency in a Midwestern state in their systematic Quality Service Review (QSR). These data included information from 46 TAY child welfare cases that were randomly selected from each region of the state from 2013 to 2015. All indicators were evaluated by a peer-review process based on a standardized review protocol. The study outcome, connectivity, was represented by combined ratings from a scale measuring maintenance of the youth's family relationships (siblings and extended family) and used existing coding to split them

into two groups (1-3 = Needs Action (0); 4-6 = Maintain(1)). System performance indicators were measured on a Likert scale ranging from 1 (needs action) to 6 (maintain). The indicators were youth engagement (whether youth are active and engaged participants in the decision making process), teaming (α=.839), assessing (α=.791), and planning (α=.922). Demographics were also included as control variables. Hierarchical binomial logistic regression was used to analyze the model.

Results: Youth were 50% female, primarily white (57.6%), had an average age of 18.6 years (SD=.85), had about 4.78 placements (SD=4.75), and had their case open for 4.08 years (SD=2.99). Youth connectivity was significantly associated with identified system performance indicators (χ2=27.29, p=.001; Nagelkerke R2--adj=.671; -2 Log Likelihood = 23.3). The model correctly predicted 93.5% of cases, and accounted for 67% of the variance in youth connectivity. More specifically, number of placements (OR 1.9, CI 1.0- 3.4), number of years the case was open (OR .23, CI .1 - .8), and planning (OR 50.4, CI 1.2- 2140.8), were significantly associated with youth connectivity.

Conclusions: Understanding which indicators influencing connectivity can help practitioners working with/as care coordinators as they advocate for the needs of their patients involved with the child welfare system. Higher numbers of placements increased the likelihood of connectivity by 1.9, when compared with those of with lower numbers of placements. Those with cases opened longer were 4.42 times less likely to have better connectivity compared to those with cases opened for less time. Cases with higher levels of planning, were 50 times as likely to maintain relationships when compared to those with lower levels of planning. Those with higher "planning" scores were 50 times more likely to have a maintain score regarding connectivity than those with low scores. This suggests that developing a holistic, coherent, long-term plan that takes into consideration the youth's permanency plan and sets achievable goals might positively impact the youth's future.

#28

Improving police officer knowledge of de-escalation skills: A pilot study of Policing the Teen Brain
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Purpose: The purpose of this pilot study was to determine whether police officers reported improved attitudes toward youth and increased knowledge about de-escalation skills after attending an officer training, "Policing the Teen Brain" (PTB). PTB was created to prevent youth arrests by improving interactions and increasing trust between police officers and youth in the community. In PTB, officers are informed of how to respond to developmentally appropriate adolescent behavior and recognize "compromised" behavior that may indicate mental health problems, substance use, or trauma. PTB participants are provided skills to de-escalate heated or aggressive encounters with youth to both minimize violence and prevent arrest. Though PTB has been implemented in multiple jurisdictions, it has not yet been formally evaluated.

Methods: Pre- and post-intervention surveys were administered to law enforcement officers attending PTB trainings in two Indiana counties. Survey subscales asked about: 1) attitude toward adolescents, 2) view of adolescence as a stressful developmental stage, and 3) opinions about punishment of youth in

the juvenile justice system. Lastly, multiple-choice items asked about officer knowledge of basic de-escalation techniques. Paired sample t-tests were used to compare pre- and post-training scores. Stepwise multiple regression was performed to determine whether officers' pre-training attitudes predicted change in their knowledge of de-escalation skills. Predictor variables included: officer gender, whether officers had previously received any training on interacting with adolescents, and pre-training measures of officer attitudes.

Results: A total of 191 participants completed the surveys [77.5% male; 42.5% with adolescent training; pre-intervention knowledge score M=2.48 or 62% correct (SD=1.05)]. Results indicated significant differences between mean pre- and post-survey responses on all subscales. Compared to pre-training responses (M=5.77, SD=.74), officers were more likely to endorse positive attitudes toward youth post-training (M=6.06, SD=.84); t(190)=4.35, p<.001. Officers reported less punitive attitudes toward youth post-training; t(190)=-7.05,p<.001. Endorsement of the belief that adolescence is a stressful time increased; t(190)=2.60,p=.010. Officers' scores on the test of knowledge about de-escalation skills also increased; t(190)=3.19,p=.002). The stepwise regression model significantly predicted improvement in officer knowledge scores. Controlling for officer gender and previous training about adolescents, officers' more positive attitudes toward youth [β=.154; 95%CI (.042,.266); p=.048] and more endorsement of adolescence as a stressful time [β=.144; 95%CI (.028,.260); p=.038] were associated with greater improvements in knowledge of de-escalation skills.

Conclusions: When compared to their pre-intervention responses, officers reported positive change in their attitudes toward adolescents after attending PTB training. Officers also improved their knowledge of skills that could be used to de-escalate future interactions with youth and limit arrests. Officers who reported more positive pre-intervention attitudes and greater recognition of adolescence as a stressful time were more likely to demonstrate improved knowledge of de-escalation skills. These preliminary results are promising and warrant future research on the effectiveness of PTB to precipitate actual behavioral change (i.e., reduced arrest rates) by police officers.

Sources of Support: None.

#29

Military Family Physicians' Readiness for Treating Patients with Gender Dysphoria

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Purpose: In June 2016, the Pentagon lifted the ban on transgender personnel serving openly in the United States military. As a result of this historic policy change, many additional military healthcare beneficiaries, including young military service members and adolescent children of service members, will likely seek care for gender dysphoria. Given that family medicine physicians are responsible for the primary care of over two-thirds of patients between the ages of 10 and 23 seen within U.S. military treatment facilities (n > 600,000), family medicine physicians will have an important role in treating adolescent patients with gender dysphoria. Patients with gender dysphoria frequently cite clinicians' lack of cultural competence and sensitivity as barriers to care, and to date, no studies have assessed military family physicians' readiness to treat patients with gender dysphoria.

Methods: Of the 300 attendees queried, 204 military clinicians participated in an anonymous online survey during the Uniformed Services Academy of Family Physicians annual meeting. Participants provided demographic information and completed a questionnaire regarding attitudes towards, and readiness for treating adults and youth with gender dysphoria. Evaluation included both descriptive and logistic regression analyses.

Results: Participants were primarily early- to mid-career-level (64%) Caucasian (85%) males (65%) practicing in academic medical settings (53%). Since earning their medical licenses, 40% of clinicians have cared for a patient with known gender dysphoria. However, a preponderance of the sample (95%) received fewer than three hours of training on transgender care during their graduate medical education; 74% did not receive any training at all. Eighty-seven percent of the sample reported that they had not received sufficient education to provide cross-hormone therapy for patients determined to be ready for gender transition, and 51% of the sample reported that they would not personally prescribe cross-gender hormones to a 20-year old patient, even if they were provided with additional education or the direct assistance of an experienced clinician. The majority of the sample (76%) felt that they could provide "nonjudgmental" care to a patient with gender dysphoria, and half of the sample agreed that exposure to openly transgender service members would make them feel more comfortable caring for transgender patients. Adjusting for sex, race, practice setting, and years of experience, logistic regressions revealed that greater medical training in transgender care was significantly associated with likelihood of prescribing cross-hormone therapy to a 20-year old patient (OR = 2.42, 95% CI [1.21, 4.84]), p = .01) and belief in one's ability to provide nonjudgmental care to patients with gender dysphoria (OR = 3.10, 95% [1.10, 8.74], p = .03).

Conclusions: The majority of clinicians did not receive any formal training on transgender care during their medical education, have not treated a patient with known gender dysphoria, and have not received sufficient training to prescribe cross-hormone therapy. Given that education in transgender care was associated with greater likelihood of prescribing hormone therapy and belief in one's ability to provide nonjudgmental care, it will be vital to augment the training of family physicians to ensure competence and sensitivity in treating adolescents with gender dysphoria.

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Adolescents and Long-Acting Reversible Contraceptives: Continued Barriers to Access After the Affordable Care Act

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Purpose: Long-Acting Reversible Contraceptives (LARCs) are arguably the most effective form of pregnancy prevention for an adolescent who does not plan to become pregnant in the near future, but desires the option for an eventual return to fertility. The Affordable Care Act has dramatically changed

the insurance landscape regarding contraceptive coverage. Despite the mandate to cover contraceptives without co-pays, confusion regarding which plans must comply with the ACA and lack of uniformity in plan language may result in coverage barriers at the payer level. The aim of this study was to assess adoption of contraceptive coverage mandates in the ACA.

Methods: This IRB-approved project conducted structured reviews of insurance plan websites, formularies, and Summary of Benefits and Coverage (SBC) to assess coverage for contraceptive services among all Pennsylvania Medicaid insurance plans and the top ten most utilized commercial insurers in the Philadelphia regional marketplace (N=37 total plans). The main outcomes—coverage of contraceptives, LARC coverage with no co-pay (45 CFR 147.130 of the ACA), coverage of preventive health services, and number of the 18 ACA mandated contraceptive categories covered were evaluated through a comprehensive analysis of the insurance provider websites. Each plan was reviewed by 2 research assistants and a coding scheme was created to categorize findings as indicating LARC coverage (ACA adherence), failure to adhere, or unclear policies. The findings of all website reviews were recorded and stored in Survey Monkey, an online cloud-based survey development software. Data was then exported to excel and analyzed.

Results: Of the 37 plans, 13 Medicaid and 24 commercial plans were reviewed. All 37 insurance plans (100%) failed to adhere to the ACA mandate regarding contraceptive coverage by failing to cover LARCs (35%), requiring a copay (16%), and/or failing to cover all 18 contraceptive categories (97%). Commercial plans provided better overall contraceptive coverage than Medicaid plans. On average, commercial insurers covered 9.5/18 (SD= 3.2) contraceptive categories while Medicaid covered 8.2/18 categories (SD= 3.6). Commercial insurers covered LARCs 71% of the time, and 54% of the time with no co-pay. Medicaid insurers covered LARCs 54% of the time and 38% of the time with no co-pay. When contraceptives were not covered, no commercial or Medicaid plan offered an explanation for the ACA violation, such as religious exemption or grandfathered plan.

Conclusions: Despite ample time since passage of the ACA, which clearly mandates no cost-sharing for all 18 categories of FDA-approved contraceptives, many of the largest insurance companies in the region studied remain non-compliant. Efforts to inform policy makers, educate insurance plan administrators, and to advocate for changes to managed care organizations' policies related to contraceptive coverage are needed. Further, web-based insurance policies must be updated, streamlined and made more accessible—they are largely inaccessible as they currently exist. An adolescent seeking information online would likely not have success in finding reliable and digestible information about plan coverage which may interfere with their access to care.