Platform Research Presentation—Mental Health and Eating Disorders

#1

THE GATHERING OF NATIVE AMERICANS INTERVENTION: CULTIVATING HOPE AND MEANINGFUL RELATIONSHIPS FOR URBAN AMERICAN INDIAN ADOLESCENTS IN CALIFORNIA

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Purpose: Native American adolescents in the United States suffer from significant health disparities in depression, substance use and suicide. Research regarding culturally competent, community based, youth positive interventions that promote youth connection is needed to inform a response. The Gathering of Native Americans (GONA) is a strengths-based intervention intended to promote adolescent wellbeing and resiliency. Published research regarding its effects is extremely limited. Our evaluation of the GONA intervention in two California sites in 2012-2014 employs mixed-methods in order to answer the primary research question: Among adolescent Native Americans, what is the relationship between participation in GONA and resilience?

Methods: Surveys were collected from 241 11-17 y.o. participants (> 95% response rate) in the 2012-14 Oakland and Fresno GONAs. The surveys for this CBPR project were developed through collaboration with three Native American advisory councils who selected strengths-based (vs. risk-based) outcomes. Surveys were administered to participants pre- and post the 4-day gathering. Hope (modified Herth Hope Index or mHHI; range: 4-48), self-perceived connection to community, and self-perceived connection to family (each 4-point Likert scales) were employed to measure resilience. In addition, open-ended answers to two items were collected from youth post-intervention ("In what ways has GONA changed your point of view?" and "What has changed in your life or behaviors because of GONA?") We investigated the change in hope, family connection, and community connection within each of three cohorts using paired t-tests. Qualitative data for the open-ended questions were coded by three coders and analyzed thematically.

Results: The mHHI increased significantly for all three cohorts (by 1.1, 1.4, and 2.5 in 2012, 2013, and 2015, respectively; $p<.05$ for all). Likewise, family connection increased in all three cohorts (by 0.2 in all years; $p< 0.05$ in 2012 and 2013, $p=0.059$ in 2014). Community connection increased very modestly each year (by 0.08, 0.039, and 0.015 in 2012, 2013 and 2014, respectively; $p<0.05$ in 2012 and 2013 and $p=0.057$ for 2014). Predominant themes arising from the qualitative data analysis included: increased sense of interdependence; increased interest in connecting with community ("I've become better aware of myself and how I fit into the community"); finding individual purpose ("It's a beautiful way to help us realize our priorities and ideals"); and increase in happiness "It has helped me open up and make new friends, and it's made me feel happier and more at peace."

Conclusions: Our findings suggest that the GONA intervention in Oakland and Fresno may be correlated with an increase in adolescent resilience as demonstrated by the intervention's effects on hope, family connection, and connection to community (sub-domains of resilience). Larger studies with long-term follow-up are needed to assess whether GONA may serve as an effective intervention for addressing disparities in health and wellness through the promotion of connection and resilience in this highly vulnerable population of youth.

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#2

IDENTIFYING SUPPORT SYSTEMS OF YOUNG WOMEN IN FOSTER CARE TO REDUCE RISKY BEHAVIOR: A MIXED METHODS SOCIAL NETWORK STUDY

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Purpose: Adolescents in the foster care system are more likely than their peers to use alcohol and other drugs and engage in high risk sexual behavior, such as unprotected intercourse. However, studies among foster youth suggest that positive peer influences, trusting relationships with adults, positive expectations about their future, and increased self-efficacy are protective factors that reduce their risk for poor health. The purpose of this study was to understand the context and qualities of foster youths' social networks to inform interventions aimed at bolstering social support to mitigate risk among this vulnerable population.

Methods: We conducted mixed methods social network interviews (n=22) with adolescent and young adult women ages 16-24 recruited from youth-serving agencies in the Allegheny County, Pennsylvania foster care system. Participants completed a computer-based survey via EgoNet software, identifying 25 alters (e.g. people) in their social networks and the connections between each alter. They further indicated whether they used drugs or alcohol with each alter, how each person made them feel, and the direction of support provided by or for each alter. Using a spring-embedded algorithm, network maps were generated, yielding information including network density (mean=0.32), the degree of centralization (mean=64%) and number of inter-alter connections (mean=95). We then conducted face-to-face, semi-structured qualitative interviews with the network maps as a guide to understand the context and qualities of their social networks.

Results: In face-to-face interviews, women described significant trauma histories, including childhood sexual abuse and adolescent relationship violence. Relocation was common, with women describing multiple foster placements and moving to escape their current situation. Generally, women could identify sources of support in their lives. All participants included social service professionals on their network maps, referencing the emotional, instrumental (e.g. tangible aid) and informational (e.g. advice) support provided by these individuals, including facilitating connections to sexual health services. Despite exposure to adverse childhood experiences, many women described having relationships with biological families emerge in young adulthood, with support from grandparents a common theme. Women described feeling as if their networks became more stable as they aged, which was perceived as a positive experience. Finally, young women described having to prioritize friendships with others who shared common values and behaviors (e.g. abstinence from substance use) as they began to achieve key milestones in their young adulthood. Findings from the computer-based survey indicated that participants with more inter-alter connections and participants with no substance use indicated feeling more positive support from their social networks.

Conclusions: Despite exposure to adversity and network disruption, young women in foster care perceive sources of social support, which may be leveraged to positively influence health behavior.

Sources of Support: BIRCWH K12HD043441 and Children's Hospital of Pittsburgh

#3

ASSOCIATIONS BETWEEN ADVERSE CHILDHOOD EXPERIENCES, STUDENT-TEACHER RELATIONSHIPS, AND NON-MEDICAL USE OF PRESCRIPTION MEDICATIONS AMONG ADOLESCENTS

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Purpose: Adolescent nonmedical use of prescription medication (NMUPM) is a serious public health issue that has been linked to delinquency, school dropout, and future addiction. There is substantial evidence of an association between adverse childhood experiences (ACE) and illicit substance use. However, few studies have investigated associations between ACE and NMUPM in population-based samples of adolescents, and even fewer have examined whether promotive factors might buffer these effects. The present study assessed the direct effects of ACE and positive student-teacher relationships on misuse of four commonly abused prescription medications, polyprescription drug use, and whether positive student-teacher relationship moderated the association between ACE and NMUPM.

Methods: Data were from the 2013 Minnesota Student Survey, an in-school paper and pencil survey administered every three years to students throughout Minnesota. The analytic sample (n=104,332) was comprised of 8th, 9th and 11th graders. Separate logistic and binomial regression models assessed the associations between ACE, teacher-student relationships, and misuse of each prescription medication, polyprescription drug use, and whether student-teacher relationships moderated these associations.

Results: The most frequently used prescription drug was Ritalin/ADHD medications (1.71%) followed by opiate-based painkillers (1.67%), tranquilizers (0.92 %), and stimulants (0.75%). Students who reported any use tended to use more than one medication. Every additional ACE was associated with a 1.56 (95% CI: 1.49, 1.64), 1.51 (95% CI: 1.46, 1.56), 1.47(95% CI: 1.42, 1.52), and 1.52 (95% CI: 1.45, 1.58) increase in the estimated odds of past year stimulant use, ADHD medication, pain reliever, and tranquilizer use, respectively. The estimated rate of the number of prescription drugs used increased by 62% (95% CI: 1.56, 1.68) for every additional ACE. Positive student- teacher relationships buffered the association between ACE and NMUPD, especially at higher levels of ACEs (p's < .001).

Conclusions: Our finding that strong, positive student-teacher relationships can offset the negative effects of harmful family environments for NMUPM, especially among youth experiencing multiple ACE, has important implications for prevention work. Training educators and developing teachers to recognize trauma symptomology are key points of intervention that can benefit schools and communities. In addition, acknowledging the significant role that teachers can have in student development and cultivating strong student-teacher relationships, in conjunction with traditional prevention programming, should be important considerations for school-based substance use prevention initiatives.

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#4

ASSOCIATIONS BETWEEN PARENT-ADOLESCENT COMMUNICATION ABOUT SEX AND PROVIDER COUNSELING ABOUT HIV AMONG ADOLESCENTS: FINDINGS FROM THE 2011-2013 NATIONAL SURVEY OF FAMILY GROWTH

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Purpose: Parent-adolescent communication about sex is a protective factor for many adolescent sexual risk behaviors, and recent analyses suggest that adolescents whose parents talk to them about sex are more likely to receive clinical preventive services. Likewise, provider counseling is associated with receipt of services and reductions in sexual risk. However, research on the relationship between parents and providers has largely focused on confidentiality protections, without attention to potential positive aspects of parent-adolescent-provider interactions. Hypothesizing that each type of communication may facilitate the other, this study examined associations between parent-adolescent communication and provider counseling about HIV.

Methods: Data were from the 2011-2013 National Survey of Family Growth, a cross-sectional, population-based survey. Adolescents aged 15-19 years (n=2,125) indicated whether they had ever communicated with a parent about how to say no to sex, methods of birth control, where to get birth control, how to prevent HIV, sexually transmitted diseases (STDs), and/or how to use condom. They also reported whether a medical provider ever talked to them about HIV, including how to prevent HIV, other STDs, condom use, reducing number of partners, abstinence, and testing. Associations between any parent-adolescent communication and provider counseling about HIV (any counseling and specific topics) were examined using chi-squared statistics and adjusted prevalence ratios, stratified by biological sex. Multivariable logistic models included age, race/ethnicity, mother's education level, insurance status, and ever had sex. Interactions between any provider counseling and parent-adolescent communication were also considered, with HIV testing as the outcome.

Results: The majority of females (78.1%) and males (69.6%) had discussed at least one sex-related topic with a parent, whereas only 40.3% of females and 30.1% of males ever discussed HIV with a provider. Receipt of any provider counseling was higher among those who had communicated with a parent for both females (45.9% vs. 20.5%, p<.0001) and males (34.3% vs. 20.5%, p=.0003). Among females, any parent-adolescent communication about sex was positively associated with each HIV counseling topic examined in multivariable analyses. Among males, parent-adolescent communication was associated with provider counseling about HIV transmission, condoms, and abstinence. Although adolescents who received any provider counseling were more likely to have ever been tested for HIV (female APR=1.65, 95%CI=1.19-2.28; male APR=2.54, 95%CI=1.77-3.65), interactions between provider counseling and parent-adolescent communication were not significant.

Conclusions: These findings suggest that parent-adolescent communication about sex and provider counseling about HIV are positively correlated. Although causality cannot be inferred, there are several mechanisms by which these types of communication may be connected. Parental communication may increase adolescents' self-efficacy to communicate with providers or providers may encourage adolescents to talk with their parents. Parents who discuss sex-related topics may increase opportunities for counseling by helping adolescents seek clinical care and ensuring that they have time alone with their provider. Empirically testing these pathways will inform strategies for leveraging parents' and providers' influence in synergistic ways. Given that parent-adolescent communication did not enhance the positive effects of provider counseling on HIV testing, intervention research should explore the potential for parents to reinforce messages from providers and vice versa.

Sources of Support: None

#5

PARENT-ADOLESCENT ALCOHOL-SPECIFIC COMMUNICATION AND PERCEPTIONS OF ALCOHOL IN A HIGH SCHOOL SAMPLE

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Purpose: Understanding how parent-adolescent alcohol-specific communication shapes adolescents' perceptions of alcohol is essential to providing evidence-based guidance to parents, but is under-studied. We sought to describe the relationship between frequency of parent-adolescent alcohol-specific communication and adolescents' perceptions of alcohol.

Methods: We conducted a secondary analysis of the National Center on Addiction and Substance Abuse Culture of High School Survey, a 2010 online survey of a nationally representative sample of 1000 high school students, aged 13-18. Adolescent perceptions of alcohol included: binge drinking is very dangerous, drinking is cool, and getting drunk is very dangerous. The main exposure variable was frequency of parent-adolescent alcohol-specific communication (often, sometimes, rarely, never). We conducted separate logistic regression models assessing the relationship between alcohol-specific communication and adolescent perceptions, adjusting for grade, gender, race, alcohol use (ever, never), and peer alcohol use (yes, no). We also assessed parental monitoring: parent knows where adolescent is most/all of the time (very true, somewhat true, not at all/a little true).

Results: Over half (57%) of subjects identified as white, 15.1% black, and 19.7% Hispanic; 49.6% were female, and grades 9-12 were represented in similar proportions. A third (35.9%) reported ever drinking; 56.2% reported peer alcohol use. Only 23.8% reported their parents speaking to them about alcohol often, 40.5% sometimes, 23.9% rarely and 11.8% never. As prior alcohol use modified the effect of alcohol-specific communication in the models predicting binge drinking is very dangerous and drinking is cool, results were stratified by prior alcohol use for those models. Among adolescents who used alcohol, a dose-response relationship existed between frequency of alcohol-specific communication and thinking binge drinking is very dangerous [often vs. never (AOR 6.98; 95% CI 2.75-17.73), sometimes vs. never

(AOR 4.96 95% CI 2.00-12.28), rarely vs. never (AOR 3.80 95% CI 1.46-9.88)]. Among never-drinkers, there was no relationship between frequency of communication and thinking binge drinking is very dangerous. While among those with prior use, more frequent communication was associated with decreased perceptions that drinking is cool [often vs. never (AOR .22; 0.08-0.61), rarely vs. never (AOR 0.21; 95% CI 0.07-0.60)], the inverse was true for never-drinkers. Alcohol-specific communication was associated with increased odds of perceiving getting drunk as very dangerous only at the greatest frequency of communication [often vs. never (AOR 2.36; 95% CI 1.41-3.95)]. Parental monitoring was also associated with adolescent perceptions of alcohol, and prior alcohol use did not modify this effect. More monitoring (very true vs. not at all/a little true) was associated with increased odds of thinking binge drinking is very dangerous (AOR 2.49; 95% CI 1.42-4.36) and decreased perception that drinking is cool [very true vs. not at all/a little true (AOR 0.20; 95% CI 0.11-0.36), somewhat true vs. not at all/a little true (AOR 0.49; 95% CI 0.26-0.92)]. Monitoring had no impact on thinking getting drunk is dangerous.

Conclusions: In this novel study, increased frequency of alcohol-specific communication and parental monitoring were associated with healthier adolescent perceptions of drinking alcohol. These relationships were particularly strong among adolescents reporting prior alcohol use.

Sources of Support: T32HP10260

#6

EXPLAINING PATTERNS OF BULLYING AND SEXUAL HARASSMENT INVOLVEMENT: CONNECTIONS MATTER

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Purpose: Bullying is associated with mental health problems in adolescence such as anxiety, depression, and suicide. Although emerging evidence suggests bullying and sexual harassment are linked, involvement in these behaviors is frequently examined separately. The purpose of this study was to answer two research questions: 1) In what ways do bullying and sexual harassment victimization and perpetration co-occur among public school students? 2) Does connectedness with family and community members protect against various patterns of bullying and sexual harassment, after controlling for internalizing symptoms?

Methods: Data were from the 2013 Minnesota Student Survey of 8th, 9th, and 11th graders (n=121,131); 50% were female; 73% were White. The dependent variable, patterns of bullying and sexual harassment, was derived from a latent class analysis of involvement in the following behaviors in the last 30 days (coded as 1=any, 0=none): victimization and perpetration via physical bullying, relational bullying, sexual harassment, and cyberbullying. Independent variables measuring connectedness included single items asking about communication with father and mother, how much parents and adult relatives care about you, and how much friends, teachers, and other adults in the community care about you. Responses ranged from 1=not at all to 5=very much. Internalizing symptoms were measured by a 5-item screener for internal mental distress (alpha=.80); self-harm and suicide ideation were both single items asking about past year behaviors. Controls included age, gender, free/reduced lunch status, family

structure, and race/ethnicity. Multinomial logistic regressions examined factors that protect against bullying and sexual harassment patterns.

Results: Youth were classified into five patterns of bullying and sexual harassment: High-Involvement of All Forms of Perpetration/Victimization (7%), Relational Victimization (17%), Sexual Harassment Victimization and Perpetration (8%), Physical Bullying and Sexual Harassment Perpetration (6%), and Low-Involvement in all Forms of Perpetration/Victimization (62%). Compared to the reference group, the Low-Involvement pattern, students in all other patterns were less likely to report that they could talk to their father (range: OR=.88-.92) and that their teachers cared about them (range: OR=0.74-.85). Youth categorized into the Sexual Harassment Victimization and Perpetration pattern and the Physical Bullying and Sexual Harassment pattern were less likely to report being able to talk with their mother (both: OR=0.87). Results were significant at the p<.001 level.

Conclusions: Result from this typology illustrate the importance of examining bullying and sexual harassment together, an important finding given the separate treatment of these issues in research and prevention. Although sexual harassment emerged as a unique behavioral pattern, a subgroup of students at risk for both physical bullying and sexual harassment were identified, and a high-risk subgroup included sexual harassment involvement with all other forms of bullying. Bullying prevention efforts should also address sexual harassment. Building stronger connections with parents and teachers may be important intervention strategies for school staff and health care providers to promote healthy youth development and protect against bullying/sexual harassment involvement.

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#7

A Randomised Controlled Trial of an Online Mental Health Help-seeking Tool for Young People: the Link Project

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Purpose: One in four young people experience mental disorders, yet only 35% seek help. Readiness for, and access to care are barriers. Innovative online services to improve help-seeking are rarely evaluated yet have the potential overcome barriers, and increase access to resources using technology youth are familiar with. Based on the Theory of Planned Behavior, we co-designed with young people and service providers an online tool (Link) directing youth to appropriate resources based on symptoms, self-rated severity, and preferred service modality. We aimed to investigate the effect of Link on young people's affect, quality of life, and help-seeking barriers compared to usual help-seeking strategies.

Methods: Following CONSORT guidelines we conducted an online RCT (2015) utilizing the survey/trial tool QuON. Recruitment utilized Facebook exchange and electronic direct mail. Participant inclusion criteria were residing in Australia and aged between 18 and 25 years. Consenting participants completed a baseline survey and were then stratified by gender and a binary variable (high/low) for probability of mental disorder (K10) into four strata then block randomized into either being directed to the Link website or to follow their usual help-seeking strategies. Follow-up surveys were conducted immediately

(within two-weeks), one -month and three months post-randomization. Baseline and follow-up surveys included the Positive and Negative Affect Schedule (PANAS), Adolescent Quality of Life scale (AQOL), the Barriers to Adolescent Help-seeking – Brief scale (BASH), the K10, the Stages of Change Questionnaire (SOCQ) and a list of help-found. Researchers were blind to study allocation and the randomization sequence until after the final analysis. Participants were not informed of study arm and received $AUD50/pro-rata for completion of four surveys. The primary outcome was positive affect immediately post-intervention. 168 participants in each arm were required to detect a difference of 2.7 in PANAS score (power 80%, significance level 0.05) and analysis was by intention to treat.

Results: 413, 18-25 year-olds were randomised to either Link (205) or usual help-seeking (208); 89% completed the immediate post-randomization survey and 71% the one and three-month follow-ups. Participants were similar between arms at baseline except for difference in prior online mental health information-sought (39% Link vs 26% control), which was therefore adjusted for in all analyses along with study stratification. Mean age was 21 years, 83% were female, 61% had high K10 and 30% had not sought any help in previous six-months. Positive affect increased by 30% in both arms; a decrease in negative affect was greater in the Link arm immediately (-1.4, 95%CI:-2.5 -0.2, p, 0.02) and at one-month (-2.6, 95%CI:-4.1- -1.1, p<0.01). Quality of life was greater in the Link arm at three-months (0.06, 95%CI:0.02, 0.10, p<0.01). There were no significant differences between arms in other measures and no harms were detected. More intervention participants found help at all time points.

Conclusions: An online mental health service navigation tool has benefits in greater lowering of negative affect and increasing quality of life compared to usual help-seeking strategies, and results in more users having found help in the shorter term.

Sources of Support: The Young and Well Cooperative Research Centre

#8

Evaluating a school-based intervention for body image ('Dove Confident Me: 5-part Body Confidence Workshops for Schools') among adolescent girls and boys: Results from a cluster randomized controlled effectiveness trial

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Purpose: Body dissatisfaction is prevalent among adolescents and is not benign. It predicts a range of debilitating impacts on psychological and physical health, including depression and eating disorders, and impacts on academic performance. Prevention and early intervention for body image is indicated and is a priority public health issue. Schools provide an ideal setting for delivering body image interventions due to easy access to large groups of adolescents and an existing infrastructure for delivering educational programs, as well as providing prime opportunity for discussing and implementing strategies relating to peer relationships and influences on body image, both in person and via social media. However, most school-based programs have been trialled with external expert-led delivery (e.g., researchers, psychologists), which is a barrier to sustainable and widespread dissemination. Thus, the aim of this study was to evaluate the effectiveness and acceptability of a universal, evidence-based 5-

session school body image intervention for adolescents aged 11-13 years (N=1495, 51.4% male) when delivered by their school teachers.

Methods: Six schools in the United Kingdom were randomised to receive the 5-session intervention (n=848), or lessons as usual control (n=647). Lessons were delivered once per week and standardised self-report measures of body esteem, related risk factors and associated health outcomes were completed at baseline, post-intervention, 2-, 6-, and 12-month follow-up. Teachers received a 2-hour training session prior to intervention delivery, and fidelity was assessed. The trial was approved by the university ethics review board and was registered (ISRCTN16782819).

Results: Intervention effects were analyzed using multilevel models to account for the clustered nature of the data, with multiple imputation employed for missing data, controlling for baseline, and using a significance threshold of $p < .01$ to account for multiple testing. Compared to control, intervention students reported significant improvements in body esteem at post-intervention ($p = .004$, Cohen's $d = .15$), maintained to 2-month ($p = <.001$, $d = .26$) and 6-month follow-up ($p = .004$, $d = .15$). Additional improvements relative to control over follow-up were found for self-esteem (2-months: $p = .005$, $d = .15$), frequency of appearance-related teasing among girls (6-month: $p = <.001$, $d = .36$; 12-months: $p = .001$, $d = .29$), and life engagement (12-months: $p = .002$, $d = .17$). For boys, there was a slight increase in frequency of teasing at post-intervention ($p = .010$, $d = .19$), however, this was not maintained at follow-up and was not accompanied with associated distress.

Conclusions: These findings demonstrate maintained benefits on our primary outcome of body esteem among adolescent girls and boys. This supports the feasibility of task-shifting body image interventions to teachers, and thus providing a viable route to sustainable dissemination on a large scale. Nevertheless, intervention refinement and improved teacher training and delivery are warranted in future research and practice, in order to increase the magnitude, maintenance and range of impact across the multiple outcomes.

Sources of Support: This study was funded by a research grant from the Dove Self-Esteem Project, Unilever. The funders had no role in the study design, data collection, analysis, or interpretation.

#9

Impact of parent physical and mental health comorbidity on adolescent behavior

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Purpose: The objectives of this study were to ascertain behavioral outcomes 10-11 years after 9/11 in adolescents ages 11-18 years (0-8 years old at the time of 9/11) enrolled in the World Trade Center Health Registry (Registry), and relate these outcomes to their 9/11-exposures and to parent health. Among a subset of adolescents whose parents are also Registry enrollees, we examined the relationship between parental 9/11-related post-traumatic stress disorder (PTSD) comorbid with one or more chronic health conditions and adolescent behavior problems.

Methods: Adolescent 9/11-exposures were reported in 2002-2003. Health-related data for both adolescents and their parents were collected in 2011-2012. Behavioral difficulties among adolescents

were assessed using the adolescent-reported Strengths and Difficulties Questionnaire (SDQ). Parental PTSD was assessed using a 9/11-specific PTSD Checklist-Civilian Version (PCL-17), a cut-off score of 44 or greater was considered probable PTSD. Multivariable logistic regression was used to estimate associations with abnormal/borderline SDQ scores, adjusting for demographic variables that were significantly associated with the SDQ score in bivariate analyses. Comorbid chronic conditions included heart disease, diabetes, depression, anxiety, lung disease, and asthma, nearly all of which have been reported to be elevated among 9/11-exposed adults.

Results: Of the 449 adolescents, 12.5% (n=56) had abnormal/borderline SDQ scores. In the multivariable model, adolescents with severe/moderate 9/11-exposures were 2.4 times more likely to have abnormal/borderline SDQ scores compared to adolescents with mild 9/11-exposures (95% Confidence Interval (CI): 1.1-6.4). Fearing for parent safety on 9/11 was also associated with abnormal/borderline SDQ scores (Adjusted Odds Ratio: 2.3; 95% CI: 1.1-4.8). Adolescents who had a parent with 9/11-related PTSD and at least one comorbid chronic condition were 4.2 times more likely to have abnormal/borderline SDQ scores compared to adolescents with a parent who had no reported chronic health conditions. Adolescents whose parent reported 14 or more poor mental health days in the preceding 30 days were 3.4 times more likely to have abnormal/borderline SDQ scores (95% CI: 1.2-9.5).

Conclusions: Previous 9/11 work on adolescent behavior problems and parent health outcomes only focused on parental PTSD. In this study we took a closer look at the parents' health by considering co-morbid conditions. The finding that parents' health appears to influence adolescent behavior problems 10-11 years following a disaster may have implications for healthcare practitioners and disaster response planners.

Sources of Support: This research was supported by Cooperative Agreement Number 5U50/OH009739 from the National Institute for Occupational Safety and Health of the Centers for Disease Control and Prevention (CDC); U50/ATU272750 from the Agency for Toxic Substances and Disease Registry, CDC, which included support from the National Center for Environmental Health, CDC; and by the New York City Department of Health and Mental Hygiene.

#10

Evaluating a website designed to improve body image and psychosocial well-being among adolescent girls and their mothers: A cluster randomised controlled trial with mother-daughter dyads

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Purpose: Poor body image affects two thirds of adolescent girls in Westernised countries and prospectively predicts depression, unhealthy weight control practices, and curtailed academic performance. Pressure to lose weight, appearance-related criticism, and modelling of body image concerns and dieting behaviours from mothers prospectively predicts poor body image among adolescent girls. Addressing parental influence on body image, therefore, offers a promising avenue for intervention. Interventions targeting parents can harness the powerful protective role parents can play

by equipping them with tools to use with their children to foster positive body image. To date, few body image interventions for children have targeted parents and been evaluated rigorously. This study evaluated the impact of an accessible, scalable, low-intensity internet-based intervention delivered to mothers (Dove Self-Esteem Project Website for Parents; selfesteem.dove.com) on mothers' and their adolescent daughters' body image and psychosocial well-being.

Methods: Mother-daughter dyads (N=235; mothers aged 28-54; daughters aged 11-13) from nine towns in the UK participated in a cluster randomized controlled trial. Dyads were randomised to 1 of 3 conditions: assessment-only control; mothers viewed the website without structured guidance for 30-minutes (website-unstructured); mothers viewed the website for 30-minutes via a tailored pathway (website-tailored). The website presented brief articles outlining expert advice, interactive activities (e.g., videos, games), and tips to encourage behaviour change. The content addressed empirically supported risk factors for poor body image. Dyads completed standardized self-report measures of body image, related risk factors, and psychosocial outcomes at baseline, 2-weeks post-exposure, 6-week and 12-month follow-up.

Results: Dyadic models showed that relative to the control, mothers who viewed the website reported significantly higher self-esteem at post-exposure (website-tailored; p=.010, d=.45), higher weight esteem at 6-week follow-up (website-tailored; p= .036,d= .37), lower negative affect at 12-month follow-up (website-tailored; p=.033,d=-.52), engaged in more conversations with their daughters about body image at post-exposure and 6-week follow-up (ps ≤.019; ds=.41-.58), and were 3-4.66 times more likely to report seeking additional support for body image issues at post-exposure (website-tailored), 6-week, and 12-month (website-tailored) follow-up (ps ≤.004). Unexpectedly, mothers also reported increased sociocultural appearance pressures at 12-month follow-up (website-tailored; p=.047, d=.38). Daughters whose mothers viewed the website had higher self-esteem and reduced negative affect at 6-week follow-up (ps ≤.034; ds .35). There were no further differences on daughters' body image, and risk factors among mothers or daughters, at post-exposure or follow-up. Tailoring website content appeared beneficial.

Conclusions: This intervention offers a promising 'first-step' approach towards improving psychosocial well-being among mothers and adolsecent daughters. Effect sizes were mostly small, however, the reach of this intervention (approximately 792,000 visits per year across eight countries) is encouraging given that when interventions with small effects are delivered at scale they have the potential to confer population benefits. Research to further strengthen intervention effects particularly for body image outcomes, and to examine the unexpected effect on sociocultural pressures for mothers, would be beneficial to optimising the intervention further.

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#11

Prevalence and patterning of mental health comorbidity among US youth with chronic conditions: a nationally representative population-based study.

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Purpose: There is a paucity of research examining the intersection between chronic physical and mental health conditions in nationally-representative samples of youth in the United States. We sought to estimate the prevalence of mental health comorbidity in youth with chronic conditions in the United States and to evaluate the strength of association between physical conditions and mental health conditions.

Methods: We used the data of youth aged 6-25 (n=31,281) from three panels of the Medical Expenditures Panel Survey spanning 2009-2013. In this nationally-representative survey, heads of households were interviewed about household members, including open-ended questions about physical and mental health diagnoses. Professional coders converted reported diagnoses to International Classification of Disease Version 9 (ICD-9) codes, which were then mapped onto Agency for Healthcare Research and Quality Clinical Classification Software (CCS) categories. We considered subjects to have physical or mental health conditions if CCS codes were consistent with one of 69 chronic condition categories that have been described previously. We used chi-square analyses to compare the prevalence of mental health conditions between subjects with physical conditions and those without. We used multivariable logistic regression to examine the relationship between physical and mental health conditions, adjusting for age, family income, family education, and race/ethnicity. Subsequent analyses will examine the relative risk of incident mental health disorders in youth with chronic conditions compared to those without.

Results: Approximately 9% of children (6-11 years), 11% of early teenagers (12-14 years), 11% of late teenagers (15-17 years) and 8% of young adults (18-25 years) without chronic physical conditions had a mental health condition. By contrast, 13% of children, 17% of early teenagers, 18% of late teenagers, and 21% of YA with chronic physical conditions had comorbid mental health conditions ($p<0.0001$ for all comparisons). Most chronic physical conditions demonstrated significantly increased odds of having a comorbid mental health diagnosis, including: asthma and depression (aOR 1.51, 95% CI: 1.18-1.93), asthma and anxiety (1.69, 1.38-2.08), migraines and depression (1.76, 1.39-2.23), diabetes and depression (2.61, 1.38-4.94), epilepsy and behavior disorders (2.88, 1.98-4.20) and malnutrition and anxiety (3.37, 2.05-5.55). In age-stratified analyses, we observed increased odds of depression specifically among late teenagers and YA with several conditions, including: esophageal disorders/GI ulcers (late teens: 2.00, 1.09-3.65; YA: 2.27, 1.60-3.23), musculoskeletal disorders (late teens: 3.08, 1.71-5.52; YA: 2.23, 1.61-3.07), and malnutrition (YA: 2.86, 1.20-6.80). We also observed increased odds of behavior disorders in children with specific physical conditions, including: neurologic disorders (4.53, 2.49-8.25), and malnutrition (4.21, 1.95-9.09).

Conclusions: This study demonstrates both higher prevalence and increased odds of mental health conditions among US youth with a broad range of chronic conditions in the largest nationally-representative sample to date. Teens and young adults with several specific conditions demonstrated strong associations with mood disorders and children with several conditions demonstrated strong associations with behavior disorders. These findings highlight the importance of mental health screening and treatment in youth with chronic conditions.

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#12

Anorexia Nervosa versus Atypical Anorexia Nervosa in Adolescents – Does it make any difference from a medical perspective?

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Purpose: To compare demographics, eating disorder characteristics, and medical parameters between two groups: adolescents diagnosed with anorexia nervosa (AN) and those diagnosed with atypical AN (AAN) , that were hospitalized for medical stabilization.

Methods: A retrospective chart review of all patients admitted to an adolescent medicine unit within a general pediatric ward for bradycardia secondary to weight loss, and were diagnosed with AN, or AAN (if weight was > 85% of the median BMI for age and gender). Demographics, eating disorder history and characteristics, anthropometric measurements, cardiovascular parameters and laboratory results were collected and compared between the groups. Descriptive statistics and comparative statistics using Student's t-test or chi-square test were used.

Results: 115 charts were retrieved, 84 held sufficient data to be analyzed. All patients were diagnosed with AN or with Subthreshold/ Atypical AN according to the DSM-IV/ DSM-V criteria (respectively). The AN group held 40 patients, and the Atypical AN (AAN) group held 44 patients. No significant differences were found between groups regarding demographic characteristics (mean age 15.2±1.5, 20% males, 40% firstborn). The two groups differed, as expected, regarding the BMI on admission (15.0±1.3 Vs 18.9±2.3, $p<0.001$), and percentage of median BMI for age and gender (74.9±6% Vs 95.2±10.5%, $p<0.001$). There were no differences between the groups in history and characteristics of the eating disorder: Months from onset (12.0±10.6 Vs 11.1±7.9, $p=0.92$), percent of weight lost (24.5±9.8kg Vs 22.9±9.4kg, $p=0.55$), speed of weight loss/month (1.9±1.3kg Vs 2.6±2.2kg, $p=0.16$), restriction of calories per day (550±220kcal), purging behaviors, mood scale, self-harm behaviors, neurologic, gastrointestinal, and urologic symptoms. No significant differences were found between the groups in various medical parameters: Nocturnal bradycardia on admission (37.5±4.7 Vs 36.5±4.9, $p=0.32$), nocturnal bradycardia at discharge (48.0±5.5 beats per minute Vs 46.2±5.4 beats per minute, $p=0.11$), percent of heart rate change (26.7±28.9% Vs 28.2±17.1%, $p=0.93$), orthostatic heart rate change on admission (92±65% Vs 81.5±69.6%, $p=0.338$). Cardiac ultrasound findings were close to similar between the groups with mild valvular dysfunction in 55% of the patients, and pericardial effusion in 32%. No differences were found in laboratory results (complete blood count, electrolytes, liver and kidney function tests, lipid profile, thyroid hormones, and venous blood gases). Mean length of stay until medical stabilization did not differ between groups (10.7±4.8 days Vs 10.18±5.8 days, $p=0.41$).

Conclusions: Our study indicates, that adolescents hospitalized for medical stabilization and diagnosed with either AN or Atypical AN, shared many features of eating disorder related symptoms, behaviors, cardiovascular complications, laboratory results and time of hospitalization with bed rest and increase in caloric intake needed to be safely discharged. Our findings, that in spite of their different BMIs, adolescents with AN and those with Atypical AN require comparable medical attention due to their similar significant medical complications sheds light on the need educate physicians, and health care

professionals working with adolescents, that restrictive eating disorders with weight loss may hold significant medical complications even at normal weight.

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