

whether the covariates (age, sex, BMI, KL score, number of AHMs) modified the association of SBP, DBP and PP with cartilage T2. RESULTS/ANTICIPATED RESULTS: The average age of all study participants was 58.8 years (SD \pm 8.6) with a higher proportion of men (59.4%), average body mass index (BMI) was 28.3 (SD \pm 4.5), average SBP was 122.4 (SD \pm 15.4) mmHg, average DBP was 75.5 (SD \pm 9.6) mmHg and 469 (38.1%) study participants were taking at least one AHM. Higher baseline DBP was significantly associated with a faster increase in global T2 (0.22 [0.10,0.35], $P < 0.001$), global deep layer T2 (0.20 [0.03,0.36], $P < 0.022$) and global superficial layer T2 (0.39 [0.20,0.58], $P < 0.001$). These associations were significant in both unadjusted and the models adjusted for age, sex, BMI and KL score. No significant associations were found between SBP or PP and cartilage T2 and no significant interactions were found between SBP, DBP, PP and the covariates. DISCUSSION/SIGNIFICANCE OF IMPACT: Higher baseline DBP was associated with a faster increase in knee cartilage T2, suggesting accelerated cartilage degeneration. This association was stronger for the superficial layer of knee cartilage T2 compared to the deep layer. Although further basic mechanistic studies are needed to elucidate the underlying pathophysiology of this relationship, these results suggest lowering DBP may influence knee OA.

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Associations between prenatal maternal stress due to a natural disaster and effortful control in early childhood

Nayra del Carmen Rodriguez-Soto¹ and Karen G Martinez, MD, MSc
¹University of Puerto Rico-Medical Sciences Campus

OBJECTIVES/SPECIFIC AIMS: For this reason, our overall objectives are to determine (i) whether natural disaster-related PNMS alters infants' EC at two years of age, and (ii) if the timing of exposure moderates its effects on toddlers EC. METHODS/STUDY POPULATION: We propose a longitudinal study with 50 mother-toddler dyads. Natural disaster-related PNMS would be measured at 12-18 and 24-30 months of age and will include: objective exposure and maternal distress. EC will be measured with a questionnaire and a Laboratory Temperament Assessment Battery at two years of age. To accomplish our objectives, we will conduct regression and moderation analyses. RESULTS/ANTICIPATED RESULTS: We anticipate that children exposed to Hurricane-related PNMS would present low EC levels compared to those with low prenatal exposure. DISCUSSION/SIGNIFICANCE OF IMPACT: These results are expected to provide evidence for further promoting early intervention and ameliorating adverse effects of PNMS on child outcomes.

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Balancing Cost and Quality of Care in the US and Denmark: Lessons for Nations Transitioning from Volume-Based to Value-Based Care

Negin Fouladi¹ and Margit Malmlose, PhD, MSc
¹University of Maryland School of Public Health

OBJECTIVES/SPECIFIC AIMS: Promote knowledge translation and evidence-informed decision-making by assessing barriers and facilitators to balancing cost and quality of care within the US state of Maryland and nation of Denmark. METHODS/STUDY POPULATION: Open-ended and semi-structured key-informant

interviews were conducted in 2016 and 2017 among high level decision-makers in Maryland (N=21) and the Danish (N=17) healthcare systems, including hospital, local, regional, and cross-organizational administrators and elected officials. The interviews consisted of questions related to: (1) currently practiced and preferred approaches to resource allocation and development and use of quality performance measures, and (2) preferred sources, formats/styles, modes of information, and decision-making strategies based on a shift from volume to quality-driven care. RESULTS/ANTICIPATED RESULTS: Decision-makers in Maryland expressed the need for collaboration in a changing environment, yet increasingly rely on cost and quality outcomes data to drive decisions and note the struggle to identify credible and useful information. Maryland decision-makers also face challenges in regulating utilization and costs without mandated participation of physician practices within the global budget cap model, which is perceived to be a primary driver of healthcare utilization in the hospital sector. Similarly, decision-makers in Denmark conveyed the importance of quantitative data to aid decisions, however, stress collaboration and dialogue as driving factors and important sources of information. Danish decision-makers also express challenges to wide-spread adoption of a quality-driven approach due to unsustainable quality assurance regulatory bodies. DISCUSSION/SIGNIFICANCE OF IMPACT: The findings suggest implementation of value-based healthcare is highly driven and influenced by availability of credible data, which may significantly impact development of policies and innovative cost control strategies, and regulatory oversight to promote adoption of quality measures in decision-making. Furthermore, collaboration within and across healthcare organizations remains a key component to health system improvement as it fosters dialogue and sharing of best practices among stakeholders.

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Barriers to Accessing Follow-up Care and Changes in Medical Needs after Childhood Injury

Teresa Maria Bell¹, Ashley N Vctor, Dennis P Watson, Christopher A Harle and Aaron E Carroll
¹Indiana University School of Medicine

OBJECTIVES/SPECIFIC AIMS: The objective of this study was to prospectively assess caregiver-perceived barriers to accessing post-acute care for their injured child and determine if caregivers report ongoing, unmet health needs for their children after trauma. METHODS/STUDY POPULATION: This was a prospective cohort study that followed 50 participants for 6 months and administered surveys to parents of children who are admitted to a pediatric level 1 trauma center for injury. Surveys were given bi-weekly regarding care children received after hospital discharge. At 3 months, parents were surveyed over the phone on whether they were able to access all needed health services and if there were any perceived barriers to obtaining or providing at-home care. At 6 months, parents were given the Child & Family Follow-up Survey to assess ongoing physical, mental, social, and scholastic needs. Free responses and transcribed interviews were analyzed using thematic content analysis and frequencies are reported for discrete data. RESULTS/ANTICIPATED RESULTS: Out of 50 families recruited, 47 completed follow-up assessments. At 3 months, common themes regarding challenges after hospital discharge included difficulty scheduling specialist care; uncertainty in managing their child's pain; transitioning home without enough knowledge to meet their child's medical