glaucoma in this dataset and performed a genome-wide association study (GWAS) adjusting for age, sex, and significant Principal Components and stratifying by self-reported race (White / Black). RESULTS/ANTICIPATED RESULTS: Of 8179 respondents passing quality filters, 6409 (78.40%) were white and 985 (12.05%) were black. Self-reported glaucoma prevalence was 7.85% and 16.34% in white and black respondents, respectively. White respondents had a mean age of 76.97 (SD 7.53) and were 57.25% female. Black respondents had a similar mean age of 74.96 (SD 7.27) and were 62.54% female. More than 87% of both groups were assessed in 2012. Preliminary GWAS analyses did not replicate known glaucoma loci and no variants attained genome-wide significance. A suggestive variant ($p<1e-05$) in the black population was within 10kb of a known locus, rs1196998. Future analyses will evaluate genetic association with combinations of glaucoma and comorbidities. DISCUSSION/SIGNIFICANCE OF IMPACT: Glaucoma risk is higher in minority groups than in whites, and the majority of reported genetic studies of glaucoma have been performed in individuals of European descent. It is imperative to better understand the role of genetics, environment, and health behavior in glaucoma risk. Further, understanding common mechanisms underlying diseases that co-occur with glaucoma could illuminate novel disease mechanisms that can be targeted for early intervention and/or treatment.

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Characterizing the top 100 articles in benign prostatic hyperplasia literature using bibliometric analysis

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OBJECTIVES/SPECIFIC AIMS: The prevalence of BPH, coupled with associated disability ranging from quality of life impairments to hospitalization, has spurred decades of research into its pathophysiology, diagnosis, treatment, and outcomes. For these reasons, we conducted a study to characterize the current landscape of BPH literature, including the most commonly cited articles impacting the field. METHODS/STUDY POPULATION: We used the Web of ScienceTM databases to conduct a bibliometric analysis of the top 100 leading BPH articles. Bibliometric analyses are quantitative approaches examining the impact of academic literature. We used the following search terms: 'benign prostatic hyperplasia' and 'benign prostatic enlargement.' We identified and characterized the 100 most-cited BPH articles including their citations, journal, author, year, and country through September 2018. RESULTS/ANTICIPATED RESULTS: The top 100 BPH articles were published between 1978 and 2012. The number of citations ranged from 143 to 2,158 across 26 different journals, including 9 urology-specific journals. The Journal of Urology (5-year impact factor: 4.91) was the most published journal with 26 articles, followed by European Urology (5-year impact factor: 15.66) with 16, and Urology (5-year impact factor: 2.39) with 13. The oldest 10 articles in the top 100 mainly focused on BPH etiology/pathogenesis, while the newest 10 articles mainly focused on medical treatment. The 1990's was the most productive decade accounting for nearly half of the top 100 articles (n=46). Eight authors had two or more first author publications, and 8 institutions had five or more publications in the top 100. Thirteen different countries were represented in the top 100 articles, with the US (n = 64), Italy (n=7), and Germany (n=5) being the most common. The articles were published in the following Web of Science Categories: Urology & Nephrology (n=68), Medicine, General & Internal (n=15), and Endocrinology & Metabolism (n=7). DISCUSSION/SIGNIFICANCE OF IMPACT: This study represents the first bibliometric analysis of the leading 100 BPH articles impacting the academic literature. The literature focus has evolved from BPH pathogenesis/etiology to treatment, and was primarily published in 3 specialty journals. Our findings highlight the most impactful BPH literature, and may be used to guide research and funding priorities for this increasingly common condition.

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Genetic variants in gestational diabetes mellitus

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OBJECTIVES/SPECIFIC AIMS: This study aims to identify genetic biomarkers of GDM and facilitate the understanding of its molecular underpinnings. METHODS/STUDY POPULATION: We identified a cohort of mothers diagnosed with GDM in our longitudinal birth study by mining Electronic Health Records of participants utilizing PheCode map with ICD-9 and ICD-10 codes. We verified each case using ACOG's GDM diagnosis criteria. RESULTS/ANTICIPATED RESULTS: Whole genome sequencing (WGS) data were available for 111 confirmed cases (out of 205) and 706 controls (out of 1,429) from different ancestries (412 EUR, 256 AMR, 56 EAS, 26 SAS and 18 AFR; 49 OTHER). SAS had the highest incidence of GDM at 38.46% and EUR had the lowest at 6.55%. We performed logistic regression using computed ancestry, age and BMI as covariates to determine if any variants are associated with GDM. The top variant (rs139014401) was found in an intron of DFFB gene, which is p53-bound and regulates DNA fragmentation during apoptosis. We will investigate the robustness of 49 identified variants and will separate the cohort by ancestry to detect population-specific differences in the top loci. DISCUSSION/SIGNIFICANCE OF IMPACT: Identification of molecular biomarkers in GDM across different ancestral backgrounds will address a gap in current GDM research. Findings may enhance screening and enable clinicians to identify those at risk for developing GDM earlier in the pregnancy. Early management of mothers at risk may lead to better health outcomes for mother and baby.

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Glycemic Control and Diabetic Peripheral Neuropathy Among Patients on Prescription Opioid Pain Medications in Western New York: Using Data Analytics for Quality Assessment

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OBJECTIVES/SPECIFIC AIMS: I would like to make clinicians aware about prescription opioid use and glycemic control among patients with diabetes. This is a quality of care issue that increases the disease burden for two conditions opioid dependence and diabetic complications. Big data analytics can bring out this quality of care issue and help in changing clinical practice through precision medicine METHODS/STUDY POPULATION: This is a population

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