middle-aged women will be included (using the PRISMA checklist). Data extraction: two reviewers independently extracting pertinent data (using the STROBE checklist). Quality assessment and risk of bias: The quality of each study will be assessed according to the Quality Assessment Tool for Observational Studies. RESULTS/ANTICIPATED RESULTS: This meta-analysis of 36 studies evaluated the proportion of successes across various populations, with a pooled proportion of 0.02 (95% CI: 0.01–0.02) based on a random-effects model. Significant heterogeneity was identified (I^2 = 88.12%), reflecting notable variability between studies. Despite this, the overall effect was statistically significant (p = 0.00). A subgroup analysis will be conducted to explore potential sources of heterogeneity, considering factors such as cancer stage, diagnostic methods, surgical approach (conventional or robotic), and study type (retrospective/prospective). DISCUSSION/SIGNIFICANCE OF IMPACT: By identifying the prevalence of, and the risk factors for, PSM, this study will better inform personalized treatment approaches, surveillance strategies, and surgical decision-making to improve patient-related outcomes and long-term survival in women with gynecological malignancies.

70

Telehealth utilization patterns among patients with multiple chronic conditions in Arkansas

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OBJECTIVES/GOALS: Patients with multiple chronic conditions (MCCs) face care coordination challenges and poorer health outcomes. Outpatient telehealth may be an effective way to enhance MCC patient care given the need for multiple visits and specialists. This study seeks to describe telehealth utilization between 2013 and 2023 in Arkansas. METHODS/STUDY POPULATION: We utilized the Arkansas All-Payer Claims Database (APCD) to identify patients diagnosed with high-prevalence MCCs comprising diabetes with comorbid hypertension, hyperlipidemia, or asthma. We then measured telehealth utilization defined as any claim associated with a telehealth modifier code, a place of service code defining the service as occurring in the patient's home, or remote patient monitoring. Finally, we created payer-specific (e.g., commercial or Medicaid) yearly measures of the number of any telehealth claims among MCC patients divided by the number of MCC patients for that year. Linear regression was used to measure the difference in utilization during the COVID-19 pandemic (i.e., 2020–2023) versus prior to the pandemic (i.e., 2013–2019). RESULTS/ANTICIPATED RESULTS: Overall, the COVID-19 pandemic era was associated with an increase of telehealth utilization among commercial patients by 1.01 telehealth claims per MCC patient (95% CI: 0.39 to 1.62, p DISCUSSION/SIGNIFICANCE OF IMPACT: Variations in telehealth uptake among MCC patients suggest heterogeneity in its suitability and necessity. We will later evaluate whether telehealth use is associated with different levels of inpatient and emergency department utilization. We expect the findings to provide clarity on the suitability of telehealth use by MCC disease status.

71

Investigating gene regulatory mechanisms associated with B-cell acute lymphoblastic leukemia incidence in Hispanic/Latino populations

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OBJECTIVES/GOALS: Investigating the B-cell acute lymphoblastic leukemia (B-ALL)-associated germline SNP rs7090445, located in intron 3 of ARID5B, which is more frequently observed in individuals of Hispanic/Latino descent. Investigating the mechanisms behind this inherited single nucleotide polymorphisms (SNP) that may contribute to the higher incidence of B-ALL in this population. METHODS/STUDY POPULATION: Specific Aim 1: We hypothesize ARID5B SNP rs7090445 disrupts intrinsic enhancer function. Identification of critical DNA looping events impacted by ARID5B variants using Capture C. Affinity purification-mass spectrometry to identify potential ARID5B transcription mediators. Specific Aim 2: We hypothesize the B-ALL-associated SNP leads to a partial human B-cell differentiation block. Utilize Cas9-mediated homology-directed repair to create ARID5B SNP in primary human hematopoietic stem cells. Gene-edited HSCs will be differentiated into B cells using an ex vivo system. Fluorescence-activated cell sorting to sort our pool of cells into stages of B-cell development spectrum. Amplicon sequencing and variant allele frequency of rs7090445 SNP to evaluate its impact on B-cell development. RESULTS/ANTICIPATED RESULTS: This proposal is conceptually innovative as it seeks to understand the mechanism by which the B-ALL-associated SNP rs7090445 in intron 3 of ARID5B disrupts enhancer function and investigates its impact on human B-cell development. Future research will investigate a tumor-suppressive role of ARID5B and whether it constitutes a "first-hit" of leukemogenesis. DISCUSSION/SIGNIFICANCE OF IMPACT: Successful completion of this research will elucidate the critical role of the B-ALL-associated ARID5B SNP rs7090445 in human B-cell development and leukemogenesis. As this SNP is more prevalent in Hispanic/Latino populations, it will also provide crucial insights into the genetic factors behind the elevated incidence of B-ALL.

72

Neighborhood factors and ADHD

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OBJECTIVES/GOALS: This project investigates how early childhood neighborhood factors influence attention-deficit/hyperactivity disorder (ADHD) outcomes in adolescence. Poor neighborhood conditions have been linked to higher ADHD rates; however, the effects of these factors on academic achievement, social relationships, and risk-taking behaviors remain understudied. METHODS/STUDY POPULATION: A large, diverse, harmonized, cleaned

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