

technology; with 63.3% using the internet occasionally, 73.3% having a cell phone, and 66.7% accessing the internet using a mobile handheld device. Participants expressed an interest in measuring blood pressure, accessing health information, and managing medication on their cellphone or tablet. Twenty-five percent of participants self-reported not being confident at all in managing their medication without help and remembering to take their medication as prescribed. Fewer participants (54.2%) were very confident with using technology to help manage medication and treatment. **DISCUSSION/SIGNIFICANCE OF IMPACT:** This study provides important insights on the use of technology for managing hypertension in an urban low-income community. Results suggest that medication adherence, the use of technology, and the willingness to use mobile applications for hypertension management is high within this low-income community. This study gives future researchers a framework on how to assess these specific areas in their own population.

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### Factors Associated with Hesitancy of Human Papillomavirus Vaccination Among Latina Immigrant Mothers Despite Physician Recommendation

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**OBJECTIVES/SPECIFIC AIMS:** The purpose of this study was to examine factors associated with Latina immigrant mothers' hesitancy in having their 9-12 year old daughters vaccinated against HPV despite a physician recommendation. **METHODS/STUDY POPULATION:** The data analyzed for this study was from a previous effort that examined the efficacy of an intervention to promote HPV vaccination among daughters (9-12 years of age) of Latina immigrants (N=317) through a randomized trial. Baseline data among Latina immigrant mothers with unvaccinated daughters was collected prior to this intervention. Participants were surveyed on sociodemographic characteristics, knowledge and perceptions of cervical cancer and HPV, and intention to vaccinate their daughters with the HPV vaccine if recommended by the daughter's physician. **RESULTS/ANTICIPATED RESULTS:** Out of 317 participants, 205 reported willingness to vaccinate following a physician recommendation (64.7%) while 112 reported hesitancy (defined as an answer of "maybe") to vaccinate their daughters (35.3%). None of the participants indicated "no". No sociodemographic factors were significantly associated with vaccine hesitancy except for the daughter's health insurance status ( $p = 0.03$ ). A significant difference existed in the mother's perceived risk of cervical cancer in herself based on hesitancy and willingness to vaccination ( $p < 0.001$ ). Mother's awareness of HPV ( $p < 0.0001$ ), knowledge of HPV ( $p < 0.01$ ), her perceived risk of HPV infection in herself ( $p < 0.01$ ) and in her daughter ( $p < 0.0001$ ), and her worry about her daughter being infected with HPV ( $p = 0.02$ ) were also significant. Finally, there were differences among mothers in confidence of being able to have their daughters complete all three doses of the vaccine ( $p < 0.0001$ ), and having the time ( $p < 0.0001$ ) and the money ( $p < 0.0001$ ) to complete the vaccination series. Factors that were significant in the univariate analysis were then incorporated into a binary logistic multivariable regression. HPV knowledge score was excluded from this analysis due to its limited sample size ( $n = 169$ ). The five variables that were strongly associated with the outcome of vaccine hesitancy included: HPV awareness, mother's perceived risk of HPV infection in their daughter, confidence in the ability to receive all

three shots in vaccine series, confidence in being able to afford the vaccine series, and daughter's health insurance. All were positively correlated with intention to vaccinate except for daughter's health insurance status. **DISCUSSION/SIGNIFICANCE OF IMPACT:** Despite research showing Latinos are pro-vaccination and the association between HCP provider recommendation and vaccine acceptability among parents, over 35% of Latina immigrant mothers in our study were still hesitant about having their daughters vaccinated against HPV following a physician recommendation. Factors that strongly contributed to this hesitancy included HPV awareness, mother's perceived risk of their daughter being infected with HPV, self-efficacy (ability to receive all required shots and finding time to complete the HPV vaccination series), and daughter's health insurance status. These results indicate that HCP recommendation may be not enough of a driving factor to motivate Latina immigrant mothers to vaccinate their daughters against HPV. Further research efforts should focus on heightening perceived risk of HPV infection, improving knowledge of HPV, and boosting their self-efficacy to get their children vaccinated against HPV.

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### Formative Evaluation of a Safety Baby Shower Intervention for Rural African American Parents and Community Advisors

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**OBJECTIVES/SPECIFIC AIMS:** To explore rural African American parents' and their community advisors' perspectives on the Safety Baby Shower's acceptability, feasibility, and adaptability. **METHODS/STUDY POPULATION:** Collaborating with a local community organization, we explored community advisors' and expectant women's SBS experiences to understand intervention delivery and adoption in a rural underserved community (RUC). The Consolidated Framework for Implementation Research guided our data collection and analysis using focus groups and key informant interviews. We used directed content analysis to generate themes and sub codes. **RESULTS/ANTICIPATED RESULTS:** Five focus groups (21 participants) and one key informant interview were conducted. Identified barriers that hinder feasibility and acceptability included resources, time/ flexibility, intervention location, cultural norms and beliefs, and the lack of a birthing hospital in the county. "Baby proofing", "reinforcement products" and "teaching sleep safety on the same day as infant clinical appointment" are expectant mothers' exemplars for what comes to their minds when asked to think about safety baby showers. To improve feasibility, both community advisors and expectant mothers suggested adaptations ranging from decentralizing or rotating intervention location, using different delivery sites such as churches, scheduling intervention outside business hours, to incorporating intervention into school health fairs and barbeque events. Social media emerged as a facilitator, and integrating safe sleep education into personal baby showers emerged as an implementation strategy. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The community advisors and expectant mothers identified a wide spectrum of potential adaptations that have potential to improve safe sleep knowledge and practices. In the next study phase, identified themes will inform intervention adaptation and suggested implementation strategies will support uptake of the adapted SBS. Identifying transformative implementation strategies and

conducting a community-informed SBS adaptation using a collective decision-making process between intervention experts and local community partners will support improved safety baby shower delivery, adoption and sustainability in RUCs.

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### Identifying Patient-Level Barriers to Non-Muscle Invasive Bladder Cancer Treatment and Surveillance Adherence in Low-Income Latino Patients: A Mixed-Methods Study

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**OBJECTIVES/SPECIFIC AIMS:** To evaluate the determinants of non-adherence to guideline treatment and surveillance and unique barriers to care in LIU Latinos with NMIBC that will inform the development of novel patient educational materials and navigation programs that could improve adherence and thus, oncologic outcomes. **METHODS/STUDY POPULATION:** We will recruit 40 Latino patients with new or existing NMIBC diagnoses who present to the Urology clinic at a large, tertiary public hospital in Los Angeles from November 2018 to March 2019. Quantitative (surveys) and qualitative (semi-structured interviews) data will be collected, analyzed and integrated in order to comprehensively determine patient-level barriers to adherence. **RESULTS/ANTICIPATED RESULTS:** We expect to identify a unique set of patient-level barriers to adherence to NMIBC care that is unique to this population that center around 1) structural barriers to care, 2) knowledge, attitudes, and beliefs that pertain to education, acculturation, gender and values, and 3) general and disease-specific health literacy. **DISCUSSION/SIGNIFICANCE OF IMPACT:** The barriers to surveillance and treatment NMIBC care are significant, particularly in LIU and minority patients, which is important as non-adherence to guideline care is linked to poorer cancer outcomes. The data generated herein will inform the development of tools and programs to aid in reducing or eliminating these barriers, but also will inform discussions on the effectiveness of current clinical practices for low-income Latino patients.

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### Identifying the barriers and disparities for referral to kidney transplantation faced by HIV-infected patients with End Stage Renal Disease.

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**OBJECTIVES/SPECIFIC AIMS:** Our study aims to create a novel state level HIV-ESRD dataset and compare patient-level characteristics on rates of transplant referral, evaluation, waitlisting, and transplantation for HIV-positive versus HIV-negative patients. Our main hypothesis is that HIV-positive patients in Georgia are less likely to be referred to kidney transplant compared with HIV-negative patients. **METHODS/STUDY POPULATION:** Three datasets will be merged in order to create the HIV-ESRD dataset. The datasets are United States Renal Data System (USRDS), a southeast Transplant Referral Dataset and patient-level Georgia Department of Public Health HIV Incidence Database. The resulting study population will include patients that are older than 18, but less than 70,

are HIV-positive and are on dialysis in Georgia. This dataset will also identify those patients who have been referred to transplantation, have been waitlisted, and have received kidney transplants between January 2012 and December 2017. If within a 1-year period, the prevalence of HIV-positive patients referred to transplant was lower than the 1-year period prevalence of HIV-negative patients for 3 consecutive years, the dialysis facility will be classified as having a within-facility disparity. We will then characterize patient level and dialysis facility-level factors that may contribute to observed findings. Patient characteristics will include demographic, clinical data, proxies of socioeconomic status, and geospatial relationships to transplant centers and rural vs urban neighborhoods. Facility-level characteristics includes profit status (profit vs. nonprofit), total number of staff (including full-time and part-time employees), aggregate demographic and clinical facility characteristics, and total number of treated patients. **RESULTS/ANTICIPATED RESULTS:** We anticipate the successful creation of the proposed dataset that will allow for accurate identification of HIV-positive patients on dialysis in Georgia. This dataset will provide the ability to determine referral, waitlisting, and transplantation rates. We predict the overall rate of referral, waitlisting, and kidney transplantation in HIV patients will be relatively low, and that dialysis facilities with a higher proportion of HIV-positive will have lower referral rates compared to dialysis facilities treating a higher proportion of HIV-negative patients. It is foreseen that among patient-level characteristics, the strongest predictor for decreased referral rates will be HIV serostatus and among dialysis facility factors, profit status will be associated with decreased referral rates. **DISCUSSION/SIGNIFICANCE OF IMPACT:** This pilot study offers the creation of the first regional dataset of HIV-ESRD patients that will include patient-level characteristic of HIV-positive patients and provide a model for other states to adopt. We will contribute improved state-level description of incidence data of HIV-positive patients on dialysis, current rates of transplant referral, waitlisting, and transplantation, and offer potential associated factors that influence these processes. This knowledge will be used to determine the next steps in improving access to care; conducting qualitative research to understand dialysis facility views on transplant in HIV patients, understanding HIV patient's position on transplantation, providing education on the value of kidney transplant referral, and expanding the approach of combining patient level HIV data to the southeast.

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### Impact of Health Literacy and Risk perception on Over-the-Counter Medication Misuse

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**OBJECTIVES/SPECIFIC AIMS:** This study aims to describe factors impacting older adult OTC selection and use so they can be targeted with a community pharmacy intervention to improve older adult medication safety. The primary outcome is the characterization of the relationship between health literacy, risk perception, and OTC misuse. These results will directly inform the refinement of the community pharmacy intervention such that it is tailored more precisely to the older adult patient population. **METHODS/STUDY POPULATION:** This cross-sectional study administers face-to-face surveys to 72 older adults (age 65+) at three locations of a mass-merchandise chain pharmacy. This study is one component of a larger study to develop and implement a community pharmacy intervention