multivariate logistic regression models to identify predictors of incident comorbidity within 12 months of COVID-19. RESULTS/ANTICIPATED RESULTS: o Previous work demonstrated that in PLWH, age and non-AIDS comorbidities, but not HIV-related factors, were associated with hospitalization for COVID-19 in a dose dependent fashion.18 We anticipate that rate of incident comorbidities will be significantly higher in PLWH after COVID-19 compared to PLWH without a history of COVID-19. We also expect that pre-existing comorbidities including obesity and cardiovascular disease, male sex, Black race, and older age are associated with higher incidence of post-COVID-19 comorbidities in PLWH. When stratifying by organ system, we also anticipate that prior comorbidities of an organ system will predispose patients to later complications of that same system. DISCUSSION/SIGNIFICANCE: By understanding the incidence and risk factors associated with developing post-COVID-19 comorbidities, we can improve guidelines for treatment of groups experiencing the disproportionate impact of co-infection with HIV and SARS-CoV-2.

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Insomnia and Depression Trajectories in Women with and without Breast Cancer: Protective Effects of Satisfying Relationships

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OBJECTIVES/GOALS: Breast cancer survivors have a high risk for chronic disease and early mortality, especially if their psychological and physical symptoms persist beyond treatment. We compared survivors'and noncancer patient controls'health trajectories. We also examined how their relationship satisfactionâ€"a key health determinantâ€"impacted their health. METHODS/STUDY POPULATION: In this longitudinal study, participants were women who were married/domestic partners with an initial suggestive test of cancer identified at cancer clinics. After follow-up testing, women received either a malignant diagnosis (cancer survivors; n=139, stages 0–IIIC) or benign diagnosis (noncancer patient controls; n=69). Breast cancer survivors completed a baseline visit prior to beginning cancer treatment and two follow-up visits 6 and 18 months after treatment ended (surgery, radiation, or chemotherapy, whichever came last); noncancer patient controls completed visits within a comparable timeframe. At each visit, all women completed self-report questionnaires assessing their relationship satisfaction, insomnia, and depressive symptoms. RESULTS/ANTICIPATED RESULTS: We used mixed models and adjusted for participant age, comorbidities, cancer treatment and stage, BMI, and menopause status. At the pre-treatment visit, cancer survivors reported greater depressive symptoms than noncancer patient controls. Cancer survivors'depressive symptoms also decreased over time and were higher before treatment than at the 6- and 18-month post-treatment visits. Insomnia in cancer survivors, but not noncancer patient controls, decreased over time: insomnia was higher at the pre-treatment and 6-months post-treatment visits relative to the 18-month post-treatment visit. Survivors, but not noncancer patient controls, had lower depressive symptoms and insomnia at visits when they reported higher satisfaction than at visits when they reported lower satisfaction. DISCUSSION/SIGNIFICANCE: Cancer survivors had poorer psychological health than those without cancer before treatment, but survivors'psychological and physical health improved after finishing treatment. Survivors'satisfying relationships predicted better psychological and physical health, demonstrating the notable health benefits of survivors'relationships.

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Integrating a Research Ethics Program within an Academic Health Science Center

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OBJECTIVES/GOALS: Research ethics services are critical to the clinical, research, and educational missions of an academic health science center. Our ethics program aims to develop a culture where investigators are as intellectually engaged in ethical issues of scientific integrity as they are in study design, data collection, and implementation. METHODS/STUDY POPULATION: This descriptive analysis depicts the historical development, from 2010 to 2022, of our research ethics program as an exemplar of ethics integration into the research enterprise of an academic health science center that engages in translational research. In this culture, clinicians, translational researchers and their scientific peers, research participants, and community members become involved in ethics investigation, deliberation, and innovation. RESULTS/ANTICIPATED RESULTS: There are four pillars to our research ethics program: 1) research ethics consultation service, which fosters the development of ethical best practices and standards for the practice of translational research; 2) education, which provides customized training and educational opportunities in research ethics to diverse stakeholders; 3) leadership, through collaboration and partnerships; 4) scholarly engagement, in the pursuit of innovative ethics research and professional development. Through these initiatives we can engage a broad constituency of stakeholders, become an integral component of research oversight, engage as active participants in the research enterprise, and have a critical role in guiding institutional culture. DISCUSSION/SIGNIFICANCE: The integration of our ethics program mirrors the translational science continuum which promotes the multidirectional flow of ideas among ethics consultants, laboratory/clinical scientists, implementation researchers and the community.

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Interactions between buprenorphine and norbuprenorphine in neonatal opioid withdrawal syndrome*

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OBJECTIVES/GOALS: Buprenorphine (BUP) is used for opioid use disorder during pregnancy but causes neonatal opioid withdrawal syndrome (NOWS). The goal of this study was to determine the contribution of the active metabolite, norbuprenorphine (NorBUP), to the development of NOWS when the parent drug, BUP, is administered during pregnancy. METHODS/STUDY POPULATION: Subcutaneously implanted osmotic minipumps delivered BUP (0, 0.01, 0.1 or 1 mg/kg/day) ± NorBUP (1 mg/kg/day) to pregnant Long-Evans rats from gestation day 9 until after delivery. NOWS was measured between 3 and 12 hours after delivery. Withdrawal was precipitated by an intraperitoneal injection of a mu opioid

https://doi.org/10.1017/cts.2023.492