



## Cancer in New York Research Literatures

Dr. Mark Herbert

World Development Institute  
39-06 Main Street, Flushing, Queens, New York 11354, USA, [ma708090@gmail.com](mailto:ma708090@gmail.com)

**Abstract:** Cancer is the general name for a group of more than 100 diseases. Although there are many kinds of cancer, all cancers start because abnormal cells grow out of control. Untreated cancers can cause serious illness and death. The body is made up of trillions of living cells. Normal body cells grow, divide, and die in an orderly fashion. During the early years of a person's life, normal cells divide faster to allow the person to grow. After the person becomes an adult, most cells divide only to replace worn-out or dying cells or to repair injuries. This article introduces recent research reports as references in the related studies.

[Dr. Mark Herbert. **Cancer in New York Research Literatures**. *Cancer Biology* 2022;12(2):59-89]. ISSN: 2150-1041 (print); ISSN: 2150-105X (online). <http://www.cancerbio.net> 7. doi:[10.7537/marscbj120222.07](https://doi.org/10.7537/marscbj120222.07).

**Key words:** cancer; life; research; literature; cell

### 1. Introduction

Cancer is the general name for a group of more than 100 diseases. Although there are many kinds of cancer, all cancers start because abnormal cells grow out of control. Untreated cancers can cause serious illness and death. The body is made up of trillions of living cells. Normal body cells grow, divide, and die in an orderly fashion. During the early years of a person's life, normal cells divide faster to allow the person to grow. After the person becomes an adult, most cells divide only to replace worn-out or dying cells or to repair injuries.

The following introduces recent reports as references in the related studies.

Adelson, K., et al. (2016). "Randomized phase II trial of fulvestrant alone or in combination with bortezomib in hormone receptor-positive metastatic breast cancer resistant to aromatase inhibitors: a New York Cancer Consortium trial." *NPJ Breast Cancer* 2: 16037.

The proteasome inhibitor bortezomib enhances the effect of the selective estrogen receptor (ER) downregulator (SERD) fulvestrant by causing accumulation of cytoplasmic ER aggregates in preclinical models. The purpose of this trial was to determine whether bortezomib enhanced the effectiveness of fulvestrant. One hundred eighteen postmenopausal women with ER-positive metastatic breast cancer resistant to aromatase inhibitors (AIs) were randomized to fulvestrant alone (Arm A-500 mg intramuscular (i.m.) day -14, 1, 15 in cycle 1, and day 1 of additional cycles) or in combination with bortezomib (Arm B-1.6 mg/m<sup>2</sup> intravenous (i.v.) on days 1, 8, 15 of each cycle). The study was powered to

show an improvement in median progression-free survival (PFS) from 5.4 to 9.0 months and compare PFS rates at 6 and 12 months ( $\alpha=0.10$ ,  $\beta=0.10$ ). Patients with progression on fulvestrant could cross over to the combination (arm C). Although there was no difference in median PFS (2.7 months in both arms), the hazard ratio for PFS in Arm B versus Arm A (referent) was 0.73 (95% confidence interval (CI)=0.49, 1.09,  $P=0.06$ , 1-sided log-rank test, significant at the prespecified 1-sided 0.10 alpha level). At 12 months, the PFS proportion in Arm A and Arm B was 13.6% and 28.1% ( $P=0.03$ , 1-sided chi(2)-test; 95% CI for difference (14.5%)=-0.06, 29.1%). Of 27 patients on arm A who crossed over to the combination (arm C), 5 (18%) were progression-free for at least 24 weeks. Bortezomib likely enhances the effectiveness of fulvestrant in AI-resistant, ER-positive metastatic breast cancer by reducing acquired resistance, supporting additional evaluation of proteasome inhibitors in combination with SERDs.

Asgary, R., et al. (2016). "Cervical Cancer Screening Among Homeless Women of New York City Shelters." *Matern Child Health J* 20(6): 1143-1150.

Introduction Homeless persons have minimal opportunities to complete recommended cancer screening. The rates and predictors of cervical cancer screening are understudied among homeless women in the US. Methods We enrolled 297 homeless women 21-65 years old residing in 6 major New York City shelters from 2012 to 2014. We used a validated national survey to determine the proportion and predictors of cervical cancer screening using cytology (Pap test). Results Mean age was 44.72 (+/-11.96) years. Majority was Black, heterosexual, single, with

high school or lower education; 50.9 % were smokers and 41.7 % were homeless more than a year. Despite a 76.5 % proportion of self-reported Pap test within the past 3 years, 65 % of women assumed their Pap test results were normal or did not get proper follow up after abnormal results. Forty-five-point-nine percent of women did not know about frequency of Pap test or causes of cervical cancer. Lower proportion of up-to-date Pap test was associated with lack of knowledge of recommended Pap test frequency ( $p < 0.01$ ) and relationship between HPV and an abnormal Pap test ( $p < 0.01$ ). Conclusions Self-reported Pap testing in homeless women was similar to a national sample. However, the majority of women surveyed were not aware of their results, received limited if any follow up and had significant education gaps about cervical cancer screening. We recommend improved counseling and patient education, patient navigators to close screening loops, and consideration of alternative test-and-treat modalities to improve effective screening.

Azhar, S., et al. (2022). "Associations between Spiritual Health Locus of Control, Perceived Discrimination and Breast and Cervical Cancer Screening for Muslim American Women in New York City." *Clin Breast Cancer* **22**(4): e586-e596.

**BACKGROUND:** We sought to understand the impacts of religion-related factors, namely perceived discrimination and spiritual health locus of control, on breast and cervical cancer screening for Muslim American women. **METHODS:** A total of 421 Muslim American women were surveyed at baseline of a breast and cervical cancer screening intervention, measuring discrimination through the Perceived Ethnic Discrimination Questionnaire (PED-Q), a 17-item scale measuring perceived interpersonal racial/ethnic discrimination; and spiritual beliefs through the Spiritual Health Locus of Control Scale, a 13-item scale measuring the link between control over one's health with a connection to religious beliefs. Multivariable logistic regression models were used to determine factors associated with an up-to-date mammogram and Pap test. **RESULTS:** Most women preferred to receive medical care from a healthcare provider of their same gender (75.2%) and same race, ethnicity or religion (62.1%). The middle age group (50-59) and a lower God's Grace Spiritual Health Locus of Control subscale were associated with up-to-date mammogram. Younger age, lower education, higher Exclusion/Rejection subscale, and lower Spiritual Life/Faith Subscale were associated with an up-to-date Pap test. **CONCLUSION:** The spiritual beliefs of Muslim American women impact their likelihood of obtaining breast and cervical cancer screenings. Therefore, these services need to be better tailored to match these needs, for example, by ensuring

that Muslim American women have access to healthcare providers of their same gender, race, ethnicity or religion.

Boscoe, F. and L. Hutchison "Differential Reporting of In Situ Colorectal Cancer in New York State and the United States." *J Registry Manag* **45**(1): 33-36.

**BACKGROUND:** Surveillance of colorectal cancer (CRC) at all stages of diagnosis, including in situ, is necessary to have a complete picture of the patterns and trends of this disease. However, registry data suggest that the reporting of in situ CRC is variable. **METHODS:** We used SaTScan statistical software to identify significant clusters of unusual CRC stage distribution in New York State (NYS) among cases diagnosed between 2010 and 2014. These results were compared to the CRC stage distribution within the National Program of Cancer Registries and Surveillance, Epidemiology, and End Results Program (SEER) 18 registries for the same period. We also computed rates and trends by type of reporting source (hospital inpatient vs outpatient surgery center), and reviewed the opinions of several NYS pathologists regarding the dividing line between in situ carcinoma and high-grade dysplasia (HGD). **RESULTS:** Seven areas within NYS were identified as having a statistically unusual proportion of in situ cases, ranging from 4% in Central New York to 22% on eastern Long Island. Nationally, the percentage ranged from 0.4% in the Seattle-Puget Sound SEER registry to 9.2% in Maryland. Feedback from clinicians revealed diverse opinions about the in situ/HGD boundary. **CONCLUSIONS:** In situ CRC is being reported inconsistently within New York and the United States, and lacks a universally agreed-upon definition. The recent downward trend in in situ CRC reported in the literature may be an artifact of changes in reporting practices.

Boscoe, F. P., et al. (2016). "Public domain small-area cancer incidence data for New York State, 2005-2009." *Geospat Health* **11**(1): 304.

There has long been a demand for cancer incidence data at a fine geographic resolution for use in etiologic hypothesis generation and testing, methodological evaluation and teaching. In this paper we describe a public domain dataset containing data for 23 anatomic sites of cancer diagnosed in New York State, USA between 2005 and 2009 at the census block group level. The dataset includes 524,503 tumours distributed across 13,823 block groups with an average population of about 1400. In addition, the data have been linked with race/ethnicity and with socioeconomic indicators such as income, educational attainment and language proficiency. We demonstrate the application of the dataset by confirming two well-established

relationships: that between breast cancer and median household income and that between stomach cancer and Asian race. We foresee that this dataset will serve as the basis for a wide range of spatial analyses and as a benchmark for evaluating spatial methods in the future.

Boulad, F., et al. (2020). "COVID-19 in Children With Cancer in New York City." *JAMA Oncol* **6**(9): 1459-1460.

Callahan, C. L., et al. (2017). "Consumption of Lake Ontario sport fish and the incidence of colorectal cancer in the New York State Angler Cohort Study (NYSACS)." *Environ Res* **154**: 86-92.

Fish consumption is hypothesized to reduce the risk of colorectal cancer. Nonetheless, consuming sport fish from the Great Lakes increases exposure to certain persistent organic pollutants, namely polychlorinated biphenyls (PCBs) and organochlorine insecticides, which may increase the risk of cancer. Evidence that exposure to persistent organic pollutants is associated with colorectal cancer is sparse. We examined colorectal cancer incidence in the New York State Angler Cohort Study (NYSACS), a prospective cohort of 17,110 anglers and spouses age 18-40 years at enrollment. In 1991, participants completed a mailed self-administered questionnaire that ascertained the number of years that fish from Lake Ontario were consumed, as well as potential confounders. Forty-one histologically confirmed first primary incident colorectal cancers diagnosed as of December 31, 2008 were identified via the New York State Cancer Registry. Vital status was ascertained by linkage with the Social Security Administration Death File. Rate ratios (RR) and 95% confidence intervals (CI) were calculated with Poisson regression, adjusting for age, pack-years of smoking, and sex. Compared with never consumers, colorectal cancer incidence was statistically non-significantly lower among consumers of Lake Ontario sport fish (RR=0.66; 95% CI: 0.35; 1.24). Incidence of colon cancer was lower among Lake Ontario sport fish consumers (RR=0.45, 95%CI: 0.20; 1.00). We did not observe any evidence of effect measure modification by sex or age. Although consumption of Lake Ontario sport fish may have an inverse association with colorectal cancer risk, inferences are complicated by a small number of cases and a lack of information regarding potential confounders including other dietary factors. However, our results do not provide support for the hypothesis that consumption of contaminated sport fish increases the risk of colorectal cancer.

Callahan, C. L., et al. (2016). "DNA methylation and breast tumor clinicopathological features: The Western

New York Exposures and Breast Cancer (WEB) study." *Epigenetics* **11**(9): 643-652.

We evaluated the association between methylation of 9 genes, SCGB3A1, GSTP1, RARB, SYK, FHIT, CDKN2A, CCND2, BRCA1, and SFN in tumor samples from 720 breast cancer cases with clinicopathological features of the tumors and survival. Logistic regression was used to estimate odds ratios (OR) of methylation and Cox proportional hazards models to estimate hazard ratios (HR) between methylation and breast cancer related mortality. Estrogen receptor (ER) and progesterone receptor (PR) positivity were associated with increased SCGB3A1 methylation among pre- and post-menopausal cases. Among premenopausal women, compared with Stage 0 cases, cases of invasive cancer were more likely to have increased methylation of RARB (Stage I OR = 4.7, 95% CI: 1.1-19.0; Stage IIA/IIB OR = 9.7, 95% CI: 2.4-39.9; Stage III/IV OR = 5.6, 95% CI: 1.1-29.4) and lower methylation of FHIT (Stage I OR = 0.2, 95% CI: 0.1-0.9; Stage IIA/IIB OR = 0.2, 95% CI: 0.1-0.8; Stage III/IV OR = 0.6, 95% CI: 0.1-3.4). Among postmenopausal women, methylation of SYK was associated with increased tumor size (OR = 1.7, 95% CI: 1.0-2.7) and higher nuclear grade (OR = 2.0, 95% CI 1.2-3.6). Associations between methylation and breast cancer related mortality were observed among pre- but not post-menopausal women. Methylation of SCGB3A1 was associated with reduced risk of death from breast cancer (HR = 0.41, 95% CI: 0.17-0.99) as was BRCA1 (HR = 0.41, 95% CI: 0.16-0.97). CCND2 methylation was associated with increased risk of breast cancer mortality (HR = 3.4, 95% CI: 1.1-10.5). We observed differences in methylation associated with tumor characteristics; methylation of these genes was also associated with breast cancer survival among premenopausal cases. Understanding of the associations of DNA methylation with other clinicopathological features may have implications for prevention and treatment.

Camacho-Rivera, M., et al. (2019). "Cancer Health Impact Program (CHIP): Identifying Social and Demographic Associations of mHealth Access and Cancer Screening Behaviors Among Brooklyn, New York, Residents." *Cancer Epidemiol Biomarkers Prev* **28**(3): 478-485.

**BACKGROUND:** The Bedford-Stuyvesant (BS) and Bushwick (BW) communities of central Brooklyn, New York, are located within the 50-mile core radius of Memorial Sloan Kettering's main catchment area. Cancer is the second leading cause of death among the predominantly African American and Hispanic neighborhoods, with BS and BW having higher prostate cancer and colorectal mortality rates than New York City as a whole. There is significant

opportunity to design cancer interventions that leverage the accessibility and acceptability of mobile health (mHealth) tools among the BS and BW communities. **METHODS:** The Cancer Health Impact Program (CHIP) is a collaborative that was formed for this purpose. Through CHIP, we used a tablet-based, Health Information National Trends (HINTS)-based multimodality survey to collect and analyze social and demographic patterns of prostate cancer and colorectal cancer screening, as well as mHealth access, among BS and BW residents. **RESULTS:** Among 783 participants, 77% reported having a smartphone, 40% reported access to a mobile health application, 17% reported blood stool kit testing, and 26% of men reported PSA test screening. Multivariable logistic regression models results demonstrated that participants who reported owning smartphones, but were unsure whether they had access to a health app, were also significantly more likely to report blood stool kit testing compared with participants without smartphones. In fully adjusted models, access to a health app was not significantly associated with PSA testing. Non-Hispanic white participants were 86% less likely to report blood stool kit testing when compared with non-Hispanic black participants [OR = 0.15; 95% confidence interval (CI) 0.02-0.49]. Participants with a prior history of cancer were three times more likely to report blood stool kit testing when compared with those without cancer history (OR = 3.18; 95% CI, 1.55-6.63). **CONCLUSIONS:** For blood stool kit testing, significant differences were observed by race/ethnicity, cancer history, age, and smartphone use; for PSA screening, only age was significant in fully adjusted models. **IMPACT:** Our results demonstrate that while access to smartphones and mobile health apps may be prevalent among minority communities, other social and demographic characteristics are more likely to influence screening behaviors.

Cham, S., et al. (2022). "Association Between Neighborhood Socioeconomic Inequality and Cervical Cancer Incidence Rates in New York City." *JAMA Oncol* **8**(1): 159-161.

Chandra, M. M., et al. (2021). "Race-insurance disparities in prostate patients' magnetic resonance imaging biopsies and their subsequent cancer care: a New York State cohort study." *Am J Clin Exp Urol* **9**(6): 435-455.

For organ-confined prostate cancer, socioeconomic factors influencing Magnetic Resonance Imaging (MRI)-guided biopsy utilization and downstream prostate cancer patients' care are unknown. This retrospective, observational cohort study used the New York Statewide Planning and Research Cooperative System (SPARCS) billing-code

driven database to examine the impact of prostate patients' socioeconomic characteristics on prostate cancer care defined as initial biopsy, 2-month post-biopsy cancer diagnoses, and within 1-year cancer-related intervention, controlling for other risk factors. From 2011-2017, the population studied (n = 18,253) included all New York State-based, male, residents aged 18 to 75 without a prior prostatectomy receiving a first-time biopsy; 760 such patient records in 2016 were removed due to data quality concerns. Major exposures included patient age, race, ethnicity and insurance. The major outcome included receipt of MRI biopsy versus standard biopsy and for these sub-populations, subsequent 2-month post-biopsy metastatic versus non-metastatic prostate cancer diagnosis and within 1-year prostate cancer treatment (prostatectomy with or without radiation versus prostatectomy-only) were compared using dichotomous (primary) and time-to-event (secondary) endpoints. Of 17,493 patients with a first-time prostate biopsy, 3.89% had MRI guided biopsies; of the 17,128 patients with no pre-biopsy cancer diagnosis, the subsequent prostate cancer diagnosis rate was 42.59%. For 6,754 non-metastatic prostate cancer patients with 1-year follow-up, 1,674 (24.79%) received surgery (with or without radiation) and 495 (7.33%) received radiation-only. Holding other factors constant, multivariable regression models identified that race-insurance was a primary predictor of MRI-guided biopsy use. Compared to commercially insured White patients, Black patients across all insurance categories received MRI-guided biopsies less frequently; Commercially insured and self-pay Black patients also had increased chance of prostate cancer diagnosis. Across all insurers, Black patients had lower likelihood of prostatectomies. In contrast, Black and White patients with government insurance were more likely to have within 1-year radiation-only treatments versus commercially insured White patients. Thus, across the prostate cancer care continuum, race-insurance affected prostate cancer-related service utilization. Future research should evaluate the generalizability of these New York State findings.

Chen, Y. S., et al. (2021). "Financial toxicity, mental health, and gynecologic cancer treatment: The effect of the COVID-19 pandemic among low-income women in New York City." *Cancer* **127**(14): 2399-2408.

**BACKGROUND:** New York City (NYC) emerged as an epicenter of the COVID-19 pandemic, and marginalized populations were affected at disproportionate rates. The authors sought to determine the impact of COVID-19 on cancer treatment, anxiety, and financial distress among low-income patients with gynecologic cancer during the peak of the NYC pandemic. **METHODS:** Medicaid-insured women who



were receiving gynecologic oncology care at 2 affiliated centers were contacted by telephone interviews between March 15 and April 15, 2020. Demographics and clinical characteristics were obtained through self-report and retrospective chart review. Financial toxicity, anxiety, and cancer worry were assessed using modified, validated surveys. RESULTS: In total, 100 patients completed the telephone interview. The median age was 60 years (range, 19-86 years), and 71% had an annual income <\$40,000. A change in employment status and early stage cancer (stage I and II) were associated with an increase in financial distress ( $P < .001$  and  $P = .008$ , respectively). Early stage cancer and telehealth participation were significantly associated with increased worry about future finances ( $P = .017$  and  $P = .04$ , respectively). Lower annual income (<\$40,000) was associated with increased cancer worry and anxiety compared with higher annual income (>\$40,000;  $P = .036$  and  $P = .017$ , respectively). When controlling for telehealth participation, income, primary language, and residence in a high COVID-19 prevalence area, a delay in medical care resulted in a 4-fold increased rate of anxiety ( $P = .023$ , 95% CI, 1.278-14.50). Race was not significantly associated with increased financial distress, cancer worry, or anxiety. CONCLUSIONS: Low socioeconomic status was the most common risk factor for increased financial distress, cancer worry, and anxiety. Interventions aimed at improving access to timely oncology care should be implemented during this ongoing pandemic.

Cortes, A., et al. (2018). "The Role of Incarceration and Reentry on Colorectal Cancer Screening Among Formerly Incarcerated Black and Hispanic-Latino Men in New York City." *J Cancer Educ* **33**(3): 686-694.

In the USA, the rate of incarceration has steadily increased from 1980 to 2010, a period called mass incarceration. Incarcerated individuals are now leaving the jail system in large numbers, the majority of whom are returning to low-income and Black and Hispanic-Latino communities. Although highly preventable, colorectal cancer (CRC) is a significant risk for minority and underserved men over the age of 50. Black men have the highest CRC incidence and mortality rates, which can be prevented and treated effectively when detected early, especially via colonoscopy. Hispanic-Latino men have the third highest CRC incidence rates and the fourth highest mortality rates. This qualitative study seeks to examine how the experience of incarceration and reintegration affects the awareness of CRC screening practices, the attitudes towards these services, the availability of services, and the frequency of CRC screening among the recently released Black and Hispanic-Latino men over the age of 50 in New York City.

Costas-Muniz, R., et al. (2020). "Colorectal Cancer Screening and Access to Healthcare in New York City Taxi Drivers." *J Immigr Minor Health* **22**(3): 526-533.

This study examined differences in colorectal cancer screening across sociodemographic, migration, occupational, and health-related factors in a sample of male taxi drivers. Male drivers eligible for colorectal cancer screening (CRCS) ( $\geq 50$  years old) were recruited in 55 community-based health fairs conducted during November 2015 to February 2017 in 16 taxi garages or community locations located in Queens, Brooklyn, Manhattan and Bronx. Participants completed a survey that included sociodemographic, migration, occupational, health-related, and cancer screening practices. For this study 33 questions were analyzed. The sample consisted of 137 male drivers, 27% of them had undergone CRCS. Occupation-related factors, including night shifts and driving high numbers of weekly hours, were associated with lower CRCS rates; having a family history of cancer, health insurance, a regular source of primary care, and a routine check-up in the last year, were associated with higher CRCS rates. The findings suggest that drivers with health insurance and better access to primary care are more likely to be up-to-date with CRCS. The results provide important information that can inform occupation-based public health interventions.

Crnosija, N., et al. (2019). "Fluoridation and county-level secondary bone cancer among cancer patients 18 years or older in New York State." *Environ Geochem Health* **41**(2): 761-768.

The decision whether to fluoridate drinking water continues to be controversial in some communities. Dental and skeletal fluorosis in response to chronic fluoride overexposure are cited as reasons to avoid community water fluoridation in spite of evidence of the oral and skeletal health benefits fluoridation confers. Community fluoridation of  $\sim 1$  mg/L fluoride has not been found to be associated with primary bone cancer but is associated with improved bone strength. No studies have examined fluoride exposure and secondary bone cancer, a common metastasis with significant morbidity. We hypothesize that fluoridation could diminish the likelihood of secondary bone cancer due to its role in bone fortification. We examined the association between community water fluoridation category and prevalence of secondary bone cancer from 2008 to 2010 among cancer patients of 18 years of age or older in counties in New York State. Relative to counties with less than 25% of the water supply fluoridated, we report no association between secondary bone cancer among cancer patients in counties with 25-75% of the water supply fluoridated ( $\beta = 0.02$ ,  $p = 0.96$ ) and among

those in counties with > 75% fluoridated (beta = 0.02, p = 0.97). We found no evidence of an association between community water fluoridation category and secondary bone cancer from 2008 to 2010 at the county level in New York State.

Crown, A., et al. (2020). "Optimizing care of breast cancer patients from low resource countries who immigrate to New York City: A case series from a large public hospital." *Breast J* **26**(11): 2203-2207.

Global disparities in breast cancer care become particularly evident when patients seek definitive care in the United States (USA) after receiving a breast cancer diagnosis and initiating care in low- and middle-income countries (LMICs). We performed a retrospective review of 26 patients with breast cancer who immigrated from LMICs and received care at Bellevue Hospital. Fifteen (58%) presented with advanced disease (stage III or IV), including 7 (27%). All 26 patients required diagnostic work-up in the USA, and all 19 (73.1%) patients with stage 0-III disease underwent surgical excision. Patients from LMICs frequently present with advanced disease and in varying stages of breast cancer treatment. Improving communication with previous providers and fostering a collaborative approach with the international community are essential to developing efficacious treatment plans and improving oncologic outcomes.

Dacus, H. L. M., et al. (2018). "Evaluation of patient-focused interventions to promote colorectal cancer screening among new york state medicaid managed care patients." *Cancer* **124**(21): 4145-4153.

**BACKGROUND:** The objective of this study was to evaluate an ongoing initiative to improve colorectal cancer (CRC) screening uptake in the New York State (NYS) Medicaid managed care population. **METHODS:** Patients aged 50 to 75 years who were not up to date with CRC screening and resided in 2 NYS regions were randomly assigned to 1 of 3 cohorts: no mailed reminder, mailed reminder, and mailed reminder + incentive (in the form of a \$25 cash card). Screening prevalence and the costs of the intervention were summarized. **RESULTS:** In total, 7123 individuals in the Adirondack Region and 10,943 in the Central Region (including the Syracuse metropolitan area) were included. Screening prevalence in the Adirondack Region was 7.2% in the mailed reminder + incentive cohort, 7.0% in the mailed reminder cohort, and 5.8% in the no mailed reminder cohort. In the Central Region, screening prevalence was 7.2% in the mailed reminder cohort, 6.9% in the mailed reminder + incentive cohort, and 6.5% in the no mailed reminder cohort. The cost of implementing interventions in the Central Region was approximately 53% lower than in

the Adirondack Region. **CONCLUSIONS:** Screening uptake was low and did not differ significantly across the 2 regions or within the 3 cohorts. The incentive payment and mailed reminder did not appear to be effective in increasing CRC screening. The total cost of implementation was lower in the Central Region because of efficiencies generated from lessons learned during the first round of implementation in the Adirondack Region. More varied multicomponent interventions may be required to facilitate the completion of CRC screening among Medicaid beneficiaries.

Falci, L., et al. (2018). "Examination of Cause-of-Death Data Quality Among New York City Deaths Due to Cancer, Pneumonia, or Diabetes From 2010 to 2014." *Am J Epidemiol* **187**(1): 144-152.

The cause-of-death (COD) statement on the standard US death certificate is a valuable tool for public health practice, but its utility is impaired by reporting inaccuracies. To assess the quality of CODs reported in New York City, we developed and applied a quality measure to 3 leading CODs: cancer, pneumonia, and diabetes. The COD quality measure characterized 5 common issues with COD completion: nonspecific conditions as the underlying COD (UCOD); UCOD discrepancies; the presence of only 1 informative cause on the entire certificate; competing causes listed together on 1 line; and clinically improbable sequences. COD statements with more than 1 quality issue were defined as statements of "limited" quality. Of 82,116 deaths with cancer, diabetes, or pneumonia assigned as the UCOD in New York City from 2010 to 2014, 66.8% of pneumonia certificates were classified as "limited" quality as compared with 45.6% of cancer certificates and 32.3% of diabetes certificates. Forty percent of cancer certificates listed only 1 informative condition on the death certificate. Almost half of pneumonia certificates (45.9%) contained only enough information to assign International Classification of Diseases, Tenth Revision, code J18.9 ("unspecified pneumonia") as the UCOD, whereas most diabetes certificates contained UCOD discrepancies (25.2%). These limitations affect the quality of mortality data but may be reduced through quality improvement efforts.

Fasano, G. A., et al. (2022). "Impact of the COVID-19 breast cancer screening hiatus on clinical stage and racial disparities in New York City." *Am J Surg*.

**BACKGROUND:** The impact of the COVID-19 mammography screening hiatus as well as of post-hiatus efforts promoting restoration of elective healthcare on breast cancer detection patterns and stage distribution is unknown. **METHODS:** Newly diagnosed breast cancer patients (2019-2021) at the New York

Presbyterian (NYP) Hospital Network were analyzed. Chi-square and student's t-test compared characteristics of patients presenting before and after the screening hiatus. RESULTS: A total of 2137 patients were analyzed. Frequency of screen-detected and early-stage breast cancer declined post-hiatus (59.7%), but returned to baseline (69.3%). Frequency of screen-detected breast cancer was lowest for African American (AA) (57.5%) and Medicaid patients pre-hiatus (57.2%), and this disparity was reduced post-hiatus (65.3% for AA and 63.2% for Medicaid). CONCLUSIONS: The return to baseline levels of screen-detected cancer, particularly among AA and Medicaid patients suggest that large-scale breast health education campaigns may be effective in resuming screening practices and in mitigating disparities.

Feferman, Y., et al. (2022). "Preventable Readmissions Following Common Cancer Surgeries: Lessons Learned from New York State and Targets for Improvement." *Isr Med Assoc J* **24**(1): 33-41.

BACKGROUND: Potentially preventable readmissions of surgical oncology patients offer opportunities to improve quality of care. Identifying and subsequently addressing remediable causes of readmissions may improve patient-centered care. OBJECTIVES: To identify factors associated with potentially preventable readmissions after index cancer operation. METHODS: The New York State hospital discharge database was used to identify patients undergoing common cancer operations via principal diagnosis and procedure codes between the years 2010 and 2014. The 30-day readmissions were identified and risk factors for potentially preventable readmissions were analyzed using competing risk analysis. RESULTS: A total of 53,740 cancer surgeries performed for the following tumor types were analyzed: colorectal (CRC) (42%), kidney (22%), liver (2%), lung (25%), ovary (4%), pancreas (4%), and uterine (1%). The 30-day readmission rate was 11.97%, 47% of which were identified as potentially preventable. The most common cause of potentially preventable readmissions was sepsis (48%). Pancreatic cancer had the highest overall readmission rate (22%) and CRC had the highest percentage of potentially preventable readmissions (51%, hazard ratio [HR] 1.42, 95% confidence interval [95%CI] 1.28-1.61). Risk factors associated with preventable readmissions included discharge disposition to a skilled nursing facility (HR 2.22, 95%CI 1.99-2.48) and the need for home healthcare (HR 1.61, 95%CI 1.48-1.75). CONCLUSIONS: Almost half of the 30-day readmissions were potentially preventable and attributed to high rates of sepsis, surgical site infections, dehydration, and electrolyte disorders.

These results can be further validated for identifying broad targets for improvement.

Friedman, D. N., et al. (2021). "COVID-19-Related Ethics Consultations at a Cancer Center in New York City: A Content Review of Ethics Consultations During the Early Stages of the Pandemic." *JCO Oncol Pract* **17**(3): e369-e376.

PURPOSE: The coronavirus disease 2019 (COVID-19) pandemic has raised a variety of ethical dilemmas for health care providers. Limited data are available on how a patient's concomitant cancer diagnosis affected ethical concerns raised during the early stages of the pandemic. METHODS: We performed a retrospective review of all COVID-related ethics consultations registered in a prospectively collected ethics database at a tertiary cancer center between March 14, 2020, and April 28, 2020. Primary and secondary ethical issues, as well as important contextual factors, were identified. RESULTS: Twenty-six clinical ethics consultations were performed on 24 patients with cancer (58.3% male; median age, 65.5 years). The most common primary ethical issues were code status (n = 11), obligation to provide nonbeneficial treatment (n = 3), patient autonomy (n = 3), resource allocation (n = 3), and delivery of care wherein the risk to staff might outweigh the potential benefit to the patient (n = 3). An additional nine consultations raised concerns about staff safety in the context of likely nonbeneficial treatment as a secondary issue. Unique contextual issues identified included concerns about public safety for patients requesting discharge against medical advice (n = 3) and difficulties around decision making, especially with regard to code status because of an inability to reach surrogates (n = 3). CONCLUSION: During the early pandemic, the care of patients with cancer and COVID-19 spurred a number of ethics consultations, which were largely focused on code status. Most cases also raised concerns about staff safety in the context of limited benefit to patients, a highly unusual scenario at our institution that may have been triggered by critical supply shortages.

Fu, C., et al. (2021). "COVID-19 outcomes in hospitalized patients with active cancer: Experiences from a major New York City health care system." *Cancer* **127**(18): 3466-3475.

BACKGROUND: The authors sought to study the risk factors associated with severe outcomes in hospitalized coronavirus disease 2019 (COVID-19) patients with cancer. METHODS: The authors queried the New York University Langone Medical Center's records for hospitalized patients who were polymerase chain reaction-positive for severe acute respiratory syndrome coronavirus 2 (SARS CoV-2) and performed

chart reviews on patients with cancer diagnoses to identify patients with active cancer and patients with a history of cancer. Descriptive statistics were calculated and multivariable logistic regression was used to determine associations between clinical, demographic, and laboratory characteristics with outcomes, including death and admission to the intensive care unit. RESULTS: A total of 4184 hospitalized SARS CoV-2+ patients, including 233 with active cancer, were identified. Patients with active cancer were more likely to die than those with a history of cancer and those without any cancer history (34.3% vs 27.6% vs 20%, respectively;  $P < .01$ ). In multivariable regression among all patients, active cancer (odds ratio [OR], 1.89; CI, 1.34-2.67;  $P < .01$ ), older age (OR, 1.06; CI, 1.05-1.06;  $P < .01$ ), male sex (OR for female vs male, 0.70; CI, 0.58-0.84;  $P < .01$ ), diabetes (OR, 1.26; CI, 1.04-1.53;  $P = .02$ ), morbidly obese body mass index (OR, 1.87; CI, 1.24-2.81;  $P < .01$ ), and elevated D-dimer (OR, 6.41 for value  $>2300$ ; CI, 4.75-8.66;  $P < .01$ ) were associated with increased mortality. Recent cancer-directed medical therapy was not associated with death in multivariable analysis. Among patients with active cancer, those with a hematologic malignancy had the highest mortality rate in comparison with other cancer types (47.83% vs 28.66%;  $P < .01$ ). CONCLUSIONS: The authors found that patients with an active cancer diagnosis were more likely to die from COVID-19. Those with hematologic malignancies were at the highest risk of death. Patients receiving cancer-directed therapy within 3 months before hospitalization had no overall increased risk of death. LAY SUMMARY: Our investigators found that hospitalized patients with active cancer were more likely to die from coronavirus disease 2019 (COVID-19) than those with a history of cancer and those without any cancer history. Patients with hematologic cancers were the most likely among patients with cancer to die from COVID-19. Patients who received cancer therapy within 3 months before hospitalization did not have an increased risk of death.

Fu, R. H., et al. (2019). "The Effect of the Breast Cancer Provider Discussion Law on Breast Reconstruction Rates in New York State." *Plast Reconstr Surg* **144**(3): 560-568.

BACKGROUND: New York State passed the Breast Cancer Provider Discussion Law in 2010, mandating discussion of insurance coverage for reconstruction and expedient plastic surgical referral, two significant factors found to affect reconstruction rates. This study examines the impact of this law. METHODS: A retrospective cohort study of the New York State Planning and Research Cooperative System database to examine breast reconstruction rates 3 years before and 3 years after law enactment was performed.

Difference-interrupted time series models were used to compare trends in the reconstruction rates by sociodemographic factors and provider types. RESULTS: The study included 32,452 patients. The number of mastectomies decreased from 6479 in 2008 to 5235 in 2013; the rate of reconstruction increased from 49 percent in 2008 to 62 percent in 2013. This rise was seen across all median income brackets, races, and age groups. When comparing before to after law enactment, the increase in risk-adjusted reconstruction rates was significantly higher for African Americans and elderly patients, but the disparity in reconstruction rates did not change for other races, different income levels, or insurance types. Reconstruction rates were also not significantly different between those treated in various hospital settings. CONCLUSIONS: The aim of the Breast Cancer Provider Discussion Law is to improve reconstruction rates through provider-driven patient education. The authors' data show significant change following law passage in African American and elderly populations, suggesting effectiveness of the law. The New York State Provider Discussion Law may provide a template for other states to model legislation geared toward patient-centered improvement of health outcomes.

Gamble, C. R., et al. (2019). "Caring for Patients With Uterine Cancer in Rural and Public Hospitals in New York State." *Obstet Gynecol* **134**(6): 1260-1268.

OBJECTIVE: To evaluate perioperative outcomes for women with uterine cancer undergoing hysterectomy at rural and public hospitals in New York State. METHODS: The New York Statewide Planning And Research Cooperative System database was used to identify women with uterine cancer who underwent hysterectomy from 2000 to 2015. Perioperative complications, inpatient mortality, and resource utilization were compared at rural, public and private hospitals. Multilevel mixed effect log-linear models were developed to evaluate the association between hospital type and outcomes of interest. Patient characteristics, hospital and surgeon clustering were accounted for within the model. RESULTS: Over the years studied, there were 193 hospitals that cared for 46,298 women with uterine cancer. Of these, 9.8% were public, 15.0% were rural, and 75.1% were private metropolitan. They cared for 11.0%, 2.2% and 86.8% of patients, respectively. The proportion of patients cared for at rural hospitals decreased significantly from 5.2% in 2000 to 0.6% in 2014 ( $P < .001$ ). There was no change in the volume of patients cared for at public hospitals (11.3 to 10.3%,  $P > .05$ ). In a multivariable model adjusting for patient risk, there were no significant differences in perioperative morbidity, transfusion and length of stay across the three hospital types ( $P > .05$ ). Compared with private hospitals,



treatment at a rural hospital was associated with increased inpatient mortality (adjusted risk ratio 4.03, 95% CI 1.02-15.97). **CONCLUSION:** In New York State, operative uterine cancer care is shifting away from rural hospitals. Public hospitals have similar risk-adjusted outcomes compared with private metropolitan facilities.

Gates Kuliszewski, M., et al. (2021). "Health Care Utilization Prior to Ovarian Cancer Diagnosis in Publicly Insured Individuals in New York State." *J Registry Manag* **48**(3): 126-137.

**BACKGROUND:** Women with early-stage ovarian cancer may be asymptomatic or present with nonspecific symptoms. We examined health care utilization prior to ovarian cancer diagnosis to assess whether women with higher utilization differed in their prognosis and outcomes compared to women with low utilization. **METHODS:** Using Medicaid, Medicare, and New York State Cancer Registry data for ovarian cancer cases diagnosed in 2006-2015, we examined selected health care visits that occurred 1-6 months before ovarian cancer diagnosis. We used multivariable-adjusted logistic regression to estimate odds ratios (ORs) and 95% CIs for associations of sociodemographic factors with number of prediagnostic visits and number of visits with tumor characteristics, and Cox proportional hazards regression to examine differences in survival by number of visits. **RESULTS:** Women with >5 vs 0 prediagnostic visits were statistically significantly less likely to be diagnosed with distant vs local stage disease (OR, 0.72; 95% CI, 0.54-0.96), and women with 3-5 or >5 vs 0 prediagnostic visits had better overall survival (hazard ratio [HR], 0.88; 95% CI, 0.80-0.96 and HR, 0.90; 95% CI, 0.83-0.98, respectively). In stratified analyses, the association with improved survival was observed only among cases with regional or distant stage disease. **CONCLUSIONS:** Women with high health care utilization prior to ovarian cancer diagnosis may have better prognosis and survival, possibly because of earlier detection or better access to care throughout treatment. Women and their health care providers should not ignore symptoms potentially indicative of ovarian cancer and should be persistent in following up on symptoms that do not resolve.

Hagopian, G. S., et al. (2018). "The impact of nativity on cervical cancer survival in the public hospital system of Queens, New York." *Gynecol Oncol* **149**(1): 63-69.

**OBJECTIVE:** We studied cervical cancer patients who presented to the Public Hospital System in ethnically-diverse Queens, New York from 2000 to 2010 with the purpose of examining the relationship between nativity (birthplace) and survival. **METHODS:**

A retrospective review of tumor registries was used to identify patients diagnosed with cervical cancer between January 1, 2000 and December 31, 2010. Using electronic medical records, data from 317 patients were available for this analysis. **RESULTS:** The majority of patients were born outside the United States (US) (85.5% versus 14.5%). One hundred patients (31.5%) were born in Latin America, 105 in the Caribbean Islands (33.1%), 48 in Asia (15.1%), 8 in the South Asia (2.5%), 10 in Russia/Eastern Europe (3.2%) and 46 (14.5%) in the United States. Patients presented at varying stages of disease: 51.4% at stage I, 19.6% at stage II, 19.6% at stage III, and 8.5% at stage IV. Kaplan-Meier estimated survival curves stratified by birthplace demonstrated significant differences in survival distributions among the groups using the log-rank test ( $P < 0.0001$ ). The most favorable survival curves were observed among patients born in Latin America and Asia whereas the least favorable was demonstrated in US-born patients. Time to death was analyzed using the Cox proportional hazards model. Adjusting for age at diagnosis, insurance status, stage and treatment modality, nodal metastases and hydronephrosis, birthplace was significantly associated with survival time ( $P < 0.0001$ ). **CONCLUSION:** An immigrant health paradox was defined for foreign-born Latino and Asian patients presenting with cervical cancer to the Public Hospital System of Queens, New York as patients born in Latin America and Asia were less likely to die at any given time compared to those born in the United States.

Hashim, D., et al. (2017). "Cancer mortality disparities among New York City's Upper Manhattan neighborhoods." *Eur J Cancer Prev* **26**(6): 453-460.

The East Harlem (EH), Central Harlem (CH), and Upper East Side (UES) neighborhoods of New York City are geographically contiguous to tertiary medical care, but are characterized by cancer mortality rate disparities. This ecological study aims to disentangle the effects of race and neighborhood on cancer deaths. Mortality-to-incidence ratios were determined using neighborhood-specific data from the New York State Cancer Registry and Vital Records Office (2007-2011). Ecological data on modifiable cancer risk factors from the New York City Community Health Survey (2002-2006) were stratified by sex, age group, race/ethnicity, and neighborhood and modeled against stratified mortality rates to disentangle race/ethnicity and neighborhood using logistic regression. Significant gaps in mortality rates were observed between the UES and both CH and EH across all cancers, favoring UES. Mortality-to-incidence ratios of both CH and EH were similarly elevated in the range of 0.41-0.44 compared with UES (0.26-0.30). After covariate and multivariable

adjustment, black race (odds ratio=1.68; 95% confidence interval: 1.46-1.93) and EH residence (odds ratio=1.20; 95% confidence interval: 1.07-1.35) remained significant risk factors in all cancers' combined mortality. Mortality disparities remain among EH, CH, and UES neighborhoods. Both neighborhood and race are significantly associated with cancer mortality, independent of each other. Multivariable adjusted models that include Community Health Survey risk factors show that this mortality gap may be avoidable through community-based public health interventions.

Haslam, A., et al. (2016). "Polychlorinated biphenyls and omega-3 fatty acid exposure from fish consumption, and thyroid cancer among New York anglers." *J Environ Sci (China)* **41**: 270-277.

Fish from the Great Lakes contain polychlorinated biphenyls (PCBs) which have been shown to disrupt endocrine function and mimic thyroid hormones, but they also contain beneficial omega-3 fatty acids that may offer protection against endocrine cancers. The purpose of this study was to examine the effects of Lake Ontario fish consumption and the estimated consumption of PCBs and omega-3 fatty acids on the risk of thyroid cancer in a group of sport fishermen. Anglers from the New York State Angler Cohort Study were followed for cancer incidence from 1991-2008. Twenty-seven cases of incident thyroid cancer and 108 controls were included in the analyses. Total estimated fish consumption, estimated omega-3 fatty acid consumption, and estimated PCB consumption from Lake Ontario fish were examined for an association with the incidence of thyroid cancer, while matching on sex, and controlling for age and smoking status. Results from logistic regression indicate no significant associations between fish consumption, short-term estimated omega-3 fatty acids, or estimated PCB consumption from Great Lakes fish and the development of thyroid cancer, but it was suggested that long-term omega-3 fatty acid from Great Lakes fish may be protective of the development of thyroid cancer. In conclusion, fish consumption, with the possible concomitant PCBs, from the Great Lakes does not appear to increase the risk of thyroid cancer in New York anglers. Further research is needed in order to separate the individual health effects of PCBs from omega-3 fatty acids contained within the fish.

He, S. and S. W. Pan (2020). "Breast Cancer Screening Trends among Lower Income Women of New York: A Time-Series Evaluation of a Population-Based Intervention." *Eur J Breast Health* **16**(4): 255-261.

**OBJECTIVE:** This study aimed to compare the screening rate trends of mammography among New York State's lower-income women and the higher-

income women from 1988 to 2010, and evaluate the potential influence of New York State's Breast Cancer Early Detection Program (introduced in 1994) on the mammography use rates of lower-income women. **MATERIALS AND METHODS:** Lower-income women are defined as women aged 40 and over whose household income is lower than 250% of the single member household federal poverty level (FPL) in the year that they participated in the survey. Higher-income women are defined as women aged 40 and over whose income is greater than 250% of the five-person household FPL. Data were obtained from the Behavioral Risk Factor Surveillance System. Interrupted time series analysis was conducted to examine screening rates before and after the launch of the Breast Cancer Early Detection program. **RESULTS:** Among the lower-income women, the pre-intervention mammography screening rate significantly increased by an average of 15.21% every two years. However, after implementation of the Breast Cancer Early Detection Program, this rate of increase significantly slowed (slope change=-13.67, p=0.00016). The lower-income women and the higher-income women experienced a similar trend change after the intervention started. **CONCLUSION:** This study found limited evidence that the Breast Cancer Early Detection Programme significantly contributed to the state-wide increase in mammography screening rate among lower-income women from 1988 to 2010. Future studies should examine the influence of structural and individual barriers inhibiting uptake of mammography screening among lower-income women.

Hirsch, B. E., et al. (2022). Screening for Anal Dysplasia and Cancer in Adults With HIV. Baltimore (MD).

This guideline on screening for anal cancer and dysplasia in individuals with HIV was developed by the Medical Care Criteria Committee (MCCC) of the New York State (NYS) Department of Health (DOH) AIDS Institute (AI) Clinical Guidelines Program. Its purpose is to inform clinicians in NYS who provide primary care to individuals with HIV about human papillomavirus (HPV)-related anal disease and assist them in identifying opportunities for prevention, screening, and treatment. Accordingly, this guideline addresses the following topics: HPV transmission, prevention, and screening and the diagnosis, follow-up, and treatment of HPV-related anal disease.

Ibrahim, M., et al. (2021). "The prevalence of asymptomatic COVID-19 infection in cancer patients. A cross-sectional study at a tertiary cancer center in

New York City." Cancer Treat Res Commun **27**: 100346.

**OBJECTIVE:** Several factors raise concern for increased risk of COVID-19 in cancer patients. While there is strong support for testing symptomatic patients. The benefit of routine testing of asymptomatic patients remains contentious. We aim to evaluate the prevalence of asymptomatic COVID-19 infection in cancer patients. **METHODS:** Between June 1 and September 3, 2020, we obtained nasopharyngeal swab from asymptomatic cancer patients who were visiting a single tertiary-care cancer center, and tested the specimen for the presence or absence of SARS-CoV-2 RNA. We performed a descriptive statistic of data **RESULTS:** We tested a total of 80 patients, of which 3 (3.75%) were found positive for COVID-19. A significant proportion of the tested patients were on active immunosuppressive or immunomodulatory treatment, cytotoxic chemotherapy (n=34), and immunotherapy (n=16). However, all three COVID-19 positive patients were only actively on hormonal therapy. All three patients observed a minimum of 2 weeks home quarantine. None of the patients developed symptoms upon follow up and no changes were required to their treatment plan. **CONCLUSIONS:** Despite published evidence that cancer patients may be at increased risk of severe COVID -19 infection, our data suggest that some infected cancer patients are asymptomatic. The overall prevalence of asymptomatic COVID-19 infection in this population of cancer patients was similar to that in the general population. Therefore, since asymptomatic infections are not uncommon in patients with cancer, we recommend universal COVID-19 testing to help guide treatment decisions and prevent the spread of the disease.

Isaacs, A. J., et al. (2016). "Association of Breast Conservation Surgery for Cancer With 90-Day Reoperation Rates in New York State." JAMA Surg **151**(7): 648-655.

**IMPORTANCE:** For early-stage breast cancer, breast conservation surgery (BCS) is a conservative option for women and involves removing the tumor with a margin of surrounding breast tissue. If margins are not tumor free, patients undergo additional surgery to avoid local recurrence. **OBJECTIVES:** To investigate the use of BCS in New York State and to determine rates of reoperation, procedure choice, and the effect of surgeon experience on the odds of a reoperation 90 days after BCS. **DESIGN, SETTING, AND PARTICIPANTS:** A population-based sample of 89448 women undergoing primary BCS for cancer were selected and examined from January 1, 2003, to December 31, 2013, in New York State mandatory reporting databases. All hospitals and ambulatory

surgery centers in New York State were included. Data were analyzed from December 15, 2014, to November 1, 2015. **MAIN OUTCOMES AND MEASURES:** Rate of reoperations within 90 days of the initial BCS procedure. **RESULTS:** During the study period, 89448 women 20 years or older (mean [SD] age, 61.7 [13.7] years) underwent primary BCS. In 2013, 1416 women in New York aged 20 to 49 years underwent BCS compared with 3068 women aged 50 to 64 years and 3644 women 65 years or older. These numbers represent a significant decrease from 1960 women younger than 50 years in 2003 who underwent BCS ( $P < .001$  for trend) but little change from the 2899 women aged 50 to 64 years and 3270 women 65 years or older who underwent BCS in 2003. Mean overall rate of 90-day reoperation was 30.9% (27 010 of 87 499 patients) and decreased over time from 39.5% (6630 of 16 805 patients) in 2003 to 23.1% (5148 of 22 286 patients) in 2011 to 2013. Rates of reoperation were highest in women aged 20 to 49 years (37.7% [6990 of 18 524]) and lowest in women 65 years or older (26.3% [9656 of 36 691]) ( $P < .001$  for trend). Over time, more patients underwent BCS as a subsequent procedure, from 4237 of 6630 patients (63.9%) in 2003 to 4258 of 5148 (82.7%) in 2011 to 2013 ( $P < .001$  for trend). Among the 19 466 women who underwent BCS as a second procedure, 2429 (12.5%) required a third intervention (2.7% of all women included). Significant surgeon-level variation was found in the data; 90-day rates of reoperations by surgeon ranged from 0% to 100%. Low-volume surgeons (<14 cases per year) had an unadjusted rate of 35.2% compared with 29.6% in middle-volume (14-33 cases per year) and 27.5% in high-volume ( $\geq 34$  cases per year) surgeons. The difference persisted in adjusted analyses (odds ratio for low-volume surgeons, 1.49 [95% CI, 1.19-1.87]; for middle-volume surgeons, 1.20 [95% CI, 0.93-1.56]) compared with high-volume surgeons (used as the reference category). **CONCLUSIONS AND RELEVANCE:** Use of BCS has decreased overall, most steeply in younger women. Nearly 1 in 4 women underwent a reoperation within 90 days of BCS across New York State from 2011 to 2013, compared with 2 in 5 from 2003 to 2004. Rates vary significantly by surgeon, and initial BCS performed by high-volume surgeons was associated with a 33% lower risk for a reoperation.

Islam, N., et al. (2017). "Understanding Barriers and Facilitators to Breast and Cervical Cancer Screening among Muslim Women in New York City: Perspectives from Key Informants." SM J Community Med **3**(1).

**BACKGROUND:** Muslims are one of the fastest growing religious groups in the US. However, little is known about their health disparities, and how

their unique cultural, religious, and social beliefs and practices affect health behaviors and outcomes. Studies demonstrate Muslim women may have lower rates of breast and cervical cancer screening compared to the overall population. **METHODS:** The purpose of this study was to: 1) conduct key-informant interviews with Muslim community leaders in New York City (NYC), to understand contextual factors that impact Muslim women's beliefs and practices regarding breast and cervical cancer screening; and 2) inform the development and implementation of a research study on breast and cervical cancer screening among Muslims. Twelve key-informant interviews were conducted. The sample included imams, female religious leaders, physicians, community-based organization leaders, and social service representatives. The interview guide assessed: 1) unique healthcare barriers faced by Muslim women; 2) cultural and social considerations in conducting research; 3) potential strategies for increasing screening in this population; and 4) content and venues for culturally tailored programming and messaging. **RESULTS:** Key informants noted structure and culture as barriers and religion as a facilitator to breast and cervical cancer screening. Themes regarding the development of targeted health campaigns to increase screening included the importance of educational and in-language materials and messaging, and engaging mosques and religious leaders for dissemination. **CONCLUSION:** Although Muslim women face a number of barriers to screening, religious beliefs and support structures can be leveraged to facilitate screening and enhance the dissemination and promotion of screening.

Itzkowitz, S. H., et al. (2016). "New York Citywide Colon Cancer Control Coalition: A public health effort to increase colon cancer screening and address health disparities." *Cancer* **122**(2): 269-277.

**BACKGROUND:** Although screening for colorectal cancer (CRC) is a widely accepted concept nationally and screening rates are increasing, there are differences in screening rates between states and within states. **METHODS:** In an effort to increase screening rates and ensure equal access with respect to race/ethnicity, the New York City Department of Health and Mental Hygiene formed a coalition of stakeholders in 2003, with its primary focus on colonoscopy, to develop and implement strategies across the city to achieve this goal. **RESULTS:** From a screening colonoscopy rate of only 42% in 2003, these concerted efforts contributed to achieving a screening rate of 62% by 2007 and a screening rate of almost 70% in 2014 with the elimination of racial and ethnic disparities. **CONCLUSIONS:** This article provides details of how this program was successfully conceived, implemented, and sustained in the large

urban population of New York City. The authors hope that by sharing the many elements involved and the lessons learned, they may help other communities to adapt these experiences to their own environments so that CRC screening rates can be maximized. *Cancer* 2016;122:269-277. (c) 2015 American Cancer Society.

Iwai, Y. (2021). "A Breast Cancer Experience Re-narrated: The Undying: Pain, Vulnerability, Mortality, Medicine, Art, Time, Dreams, Data, Exhaustion, Cancer, and Care by Anne Boyer, New York: Farrar, Straus and Giroux, 2019." *J Med Humanit* **42**(4): 801-803.

Jackson-Spence, F., et al. (2017). "Cancer-related outcomes in kidney allograft recipients in England versus New York State: a comparative population-cohort analysis between 2003 and 2013." *Cancer Med* **6**(3): 563-571.

It is unclear whether cancer-related epidemiology after kidney transplantation is translatable between countries. In this population-cohort study, we compared cancer incidence and all-cause mortality after extracting data for every kidney-alone transplant procedure performed in England and New York State (NYS) between 2003 and 2013. Data were analyzed for 18,493 and 11,602 adult recipients from England and NYS respectively, with median follow up 6.3 years and 5.5 years respectively (up to December 2014). English patients were more likely to have previous cancer at time of transplantation compared to NYS patients (5.6% vs. 3.5%,  $P < 0.001$ ). Kidney allograft recipients in England versus NYS had increased cancer incidence (12.3% vs. 5.9%,  $P < 0.001$ ) but lower all-cause mortality during the immediate postoperative stay (0.7% vs. 1.0%,  $P = 0.011$ ), after 30-days (0.9% vs. 1.8%,  $P < 0.001$ ) and after 1-year post-transplantation (3.0% vs. 5.1%,  $P < 0.001$ ). However, mortality rates among patients developing post-transplant cancer were equivalent between the two countries. During the first year of follow up, if patients had an admission with a cancer diagnosis, they were more likely to die in both England (Odds Ratio 4.28 [95% CI: 3.09-5.93],  $P < 0.001$ ) and NYS (Odds Ratio 2.88 [95% CI: 1.70-4.89],  $P < 0.001$ ). Kidney allograft recipients in NYS demonstrated higher hazard ratios for developing kidney transplant rejection/failure compared to England on Cox regression analysis. Our analysis demonstrates significant differences in cancer-related epidemiology between kidney allograft recipients in England versus NYS, suggesting caution in translating post-transplant cancer epidemiology between countries.

Jimenez-Kurlander, L., et al. (2021). "COVID-19 in pediatric survivors of childhood cancer and



hematopoietic cell transplantation from a single center in New York City." *Pediatr Blood Cancer* **68**(3): e28857.

Childhood cancer survivors are at increased risk for treatment-related late effects; data are lacking on how coronavirus disease 2019 (COVID-19) infection impacts this cohort. We assessed COVID-19-related symptoms, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) IgG seroprevalence, and rate of COVID-19-related hospitalization among 321 asymptomatic survivors of childhood cancer or transplantation seen for routine long-term follow-up between May and September 2020 in a New York City tertiary cancer center. While 10.9% (n = 35) reported possible COVID-19-related symptoms, 7.8% (n = 20) of those tested had positive SARS-CoV-2 IgG, and one patient (0.3%) required COVID-19-related hospitalization. This report suggests that childhood cancer survivors appear to be at relatively low risk for COVID-19 complications.

Kalinsky, K., et al. (2020). "Characteristics and outcomes of patients with breast cancer diagnosed with SARS-Cov-2 infection at an academic center in New York City." *Breast Cancer Res Treat* **182**(1): 239-242.

Kalinsky, K., et al. (2018). "Pre-surgical trial of the AKT inhibitor MK-2206 in patients with operable invasive breast cancer: a New York Cancer Consortium trial." *Clin Transl Oncol* **20**(11): 1474-1483.

**INTRODUCTION:** The PI3K/AKT/mTOR pathway is an oncogenic driver in breast cancer (BC). In this multi-center, pre-surgical study, we evaluated the tissue effects of the AKT inhibitor MK-2206 in women with stage I-III BC. **MATERIALS AND METHODS:** Two doses of weekly oral MK2206 were administered at days - 9 and - 2 before surgery. The primary endpoint was reduction of pAkt(Ser473) in breast tumor tissue from diagnostic biopsy to surgery. Secondary endpoints included changes in PI3K/AKT pathway tumor markers, tumor proliferation (ki-67), insulin growth factor pathway blood markers, pharmacokinetics (PK), genomics, and MK-2206 tolerability. Paired t tests were used to compare biomarker changes in pre- and post-MK-2206, and two-sample t tests to compare with prospectively accrued untreated controls. **RESULTS:** Despite dose reductions, the trial was discontinued after 12 patients due to grade III rash, mucositis, and pruritus. While there was a trend to reduction in pAKT after MK-2206 (p = 0.06), there was no significant change compared to controls (n = 5, p = 0.65). After MK-2206, no significant changes in ki-67, pS6, PTEN, or stathmin were observed. There was no significant association between dose level and PK (p = 0.11). Compared to controls, MK-2206 significantly increased serum

glucose (p = 0.02), insulin (p < 0.01), C-peptide (p < 0.01), and a trend in IGFBP-3 (p = 0.06). **CONCLUSION:** While a trend to pAKT reduction after MK-2206 was observed, there was no significant change compared to controls. However, the accrued population was limited, due to toxicity being greater than expected. Pre-surgical trials can identify in vivo activity in the early drug development, but side effects must be considered in this healthy population.

Kamath, G. R., et al. (2020). "Where you live can impact your cancer risk: a look at multiple myeloma in New York City." *Ann Epidemiol* **48**: 43-50 e44.

**PURPOSE:** To visualize variation in multiple myeloma (MM) incidence and mortality rates by race-ethnicity and geographic location and evaluate their correlation with neighborhood-level population covariates within New York City (NYC). **METHODS:** Trends and racial differences in MM incidence and mortality for the United States [Surveillance, Epidemiology, and End Results Cancer Registry (SEER), National Center for Health Statistics], and NYC [New York State Cancer Registry] were compared using Joinpoint regression. Pearson's correlation coefficients measured neighborhood-level MM-covariate relationships (n = 34). **RESULTS:** MM incidence rates are double in African-Americans compared with Whites, in SEER-13 areas (rate ratio (RR) = 2.27; 95% confidence interval [CI] = 2.22-2.32) and NYC (RR = 2.11; 95% CI = 2.03-2.20). Incidence rates increased faster in NYC (average annual percentage change difference, -1.1; 95% CI, -2.3 to -0.1). NYC African-American men experienced the steepest increase in mortality rates after 2001. In NYC, strong neighborhood-level correlations exist between incidence and mortality rates and high prevalence of residents of African ancestry, Latin American birth, daily sugary beverage and low fruit and vegetable consumption, and neighborhood walkability. Higher MM mortality also correlates with Hispanic ethnicity, obesity, diabetes, poverty, HIV/AIDS, air benzene concentration, and indoor pesticide use. **CONCLUSIONS:** NYC neighborhoods with large minority populations have higher prevalence of poverty-related factors associated with MM incidence and mortality, warranting public health policies to address exposures and access to care.

Kamath, G. R., et al. (2018). "Liver Cancer Disparities in New York City: A Neighborhood View of Risk and Harm Reduction Factors." *Front Oncol* **8**: 220.

**INTRODUCTION:** Liver cancer is the fastest increasing cancer in the United States and is one of the leading causes of cancer-related death in New York City (NYC), with wide disparities among neighborhoods. The purpose of this cross-sectional

study was to describe liver cancer incidence by neighborhood and examine its association with risk factors. This information can inform preventive and treatment interventions. **MATERIALS AND METHODS:** Publicly available data were collected on adult NYC residents ( $n = 6,407,022$ ). Age-adjusted data on liver and intrahepatic bile duct cancer came from the New York State Cancer Registry (1) (2007-2011 average annual incidence); and the NYC Vital Statistics Bureau (2015, mortality). Data on liver cancer risk factors (2012-2015) were sourced from the New York City Department of Health and Mental Hygiene: (1) Community Health Survey, (2) A1C registry, and (3) NYC Health Department Hepatitis surveillance data. They included prevalence of obesity, diabetes, diabetic control, alcohol-related hospitalizations or emergency department visits, hepatitis B and C rates, hepatitis B vaccine coverage, and injecting drug use. **RESULTS:** Liver cancer incidence in NYC was strongly associated with neighborhood poverty after adjusting for race/ethnicity ( $\beta = 0.0217$ ,  $p = 0.013$ ); and with infection risk scores ( $\beta = 0.0389$ , 95% CI = 0.0088-0.069,  $p = 0.011$ ), particularly in the poorest neighborhoods ( $\beta = 0.1207$ , 95% CI = 0.0147-0.2267,  $p = 0.026$ ). Some neighborhoods with high hepatitis rates do not have a proportionate number of hepatitis prevention services. **CONCLUSION:** High liver cancer incidence is strongly associated with infection risk factors in NYC. There are gaps in hepatitis prevention services like syringe exchange and vaccination that should be addressed. The role of alcohol and metabolic risk factors on liver cancer in NYC warrants further study.

Kim, A., et al. (2019). "Patterns of Medical Cannabis Use among Cancer Patients from a Medical Cannabis Dispensary in New York State." *J Palliat Med* **22**(10): 1196-1201.

**Background:** Research on the patterns of use of medical cannabis among cancer patients is lacking. **Objective:** To describe patterns of medical cannabis use by patients with cancer, and how patterns differ from patients without cancer. **Design/Measurements:** We performed secondary data analysis using data from a medical cannabis licensee in New York State, analyzing demographic information, qualifying conditions, and symptoms, and the medical cannabis product used, including tetrahydrocannabinol (THC) to cannabidiol (CBD) ratios. **Setting/Subjects:** Adults age  $\geq 18$  who used New York State medical cannabis licensee products between January 2016 and December 2017. **Results:** There were a total of 11,590 individuals with 1990 (17.2%) having cancer who used at least one cannabis product. Patients with cancer using cannabis were older and more likely to be female. The most common qualifying symptom for both cancer and

noncancer patients was severe or chronic pain. Cancer patients were more likely to use the sublingual tincture form of cannabis ( $n = 1098$ , 55.2%), while noncancer patients were more likely to use the vaporization form ( $n = 4222$ , 44.0%). Over time, across all patients, there was an increase in the THC daily dose by a factor of 0.20 mg/week, yielding a corresponding increase in the THC:CBD daily ratio. Compared with noncancer patients, these trends were not different in the cancer group for THC daily dose, but there were less pronounced increases in the THC:CBD daily ratio over time among cancer patients. **Conclusions:** Our study found some key differences in demographics and medical cannabis product use between patients with cancer and without cancer.

Ko, H. and S. A. Glied (2021). "Robotic Prostatectomy and Prostate Cancer-Related Medicaid Spending: Evidence from New York State." *J Gen Intern Med* **36**(11): 3388-3394.

**BACKGROUND:** Robotic prostatectomy is a costly new technology, but the costs may be offset by changes in treatment patterns. The net effect of this technology on Medicaid spending has not been assessed. **OBJECTIVE:** To identify the association of the local availability of robotic surgical technology with choice of initial treatment for prostate cancer and total prostate cancer-related treatment costs. **DESIGN AND PARTICIPANTS:** This cohort study used New York State Medicaid data to examine the experience of 9564 Medicaid beneficiaries 40-64 years old who received a prostate biopsy between 2008 and 2017 and were diagnosed with prostate cancer. The local availability of robotic surgical technology was measured as distance from zip code centroids of patient's residence to the nearest hospital with a robot and the annual number of robotic prostatectomies performed in the Hospital Referral Region. **MAIN MEASURES:** Multivariate linear models were used to relate regional access to robots to the choice of initial therapy and prostate cancer treatment costs during the year after diagnosis. **KEY RESULTS:** The mean age of the sample of 9564 men was 58 years; 30% of the sample were White, 26% were Black, and 22% were Hispanic. Doubling the distance to the nearest hospital with a robot was associated with a reduction in robotic surgery rates of 3.7 percentage points and an increase in the rate of use of radiation therapy of 5.2 percentage points. Increasing the annual number of robotic surgeries performed in a region by 10 was associated with a decrease in the probability of undergoing radiation therapy of 0.6 percentage point and a \$434 reduction in total prostate cancer-related costs per Medicaid patient. **CONCLUSIONS:** A full accounting of the costs of a new technology will depend on when

it is used and the payment rate for its use relative to payment rates for substitutes.

Kotsen, C., et al. (2021). "Rapid Scaling Up of Telehealth Treatment for Tobacco-Dependent Cancer Patients During the COVID-19 Outbreak in New York City." *Telemed J E Health* 27(1): 20-29.

**Background:** The (COVID-19) pandemic resulted in sudden disruption of routine clinical care necessitating rapid transformation to maintain clinical care while safely reducing virus contagion. **Introduction:** Memorial Sloan Kettering (MSK) experienced a rapid evolution from delivery of in-person cessation counseling services to virtual telehealth treatments for our tobacco-dependent cancer patients. **Aim:** To examine the effect of rapid scaling of tobacco treatment telehealth on patient engagement, as measured by attendance rates for in-person counseling visits versus remote telehealth counseling visits. We also describe the patient, clinician, and health care system challenges encountered in rapid expansion of individual and group tobacco telehealth services. **Methods:** Data collected from the electronic medical record during the first 4 months of the COVID-19 pandemic were examined for tobacco treatment counseling. **Results:** From January 1, 2020 to March 30, 2020, markedly improved patient engagement was observed in ambulatory tobacco treatment services with greater attendance at scheduled telehealth visits than in-person visits, 75% versus 60.3%, odds ratio 1.84 (confidence interval: 1.26-2.71;  $p < 0.001$ ). In addition, bedside hospital counseling visits were transformed into inpatient telephone visits with high levels of sustained patient engagement. Lastly, group telehealth services were launched rapidly to increase capacity and provide greater psychosocial support for cancer patients struggling with tobacco dependence. **Discussion:** Clinical, Information Technology (IT), and hospital system barriers were successfully addressed for most cancer patients seeking individual telehealth treatment. Group telehealth services were found to be feasible and acceptable. **Conclusions:** MSK's rapid leap into virtual care delivery mitigated disruption of tobacco treatment services and demonstrated strong feasibility and acceptance for managing complex tobacco-dependent patients.

Koyratty, N., et al. (2021). "Sugar-Sweetened Soda Consumption and Total and Breast Cancer Mortality: The Western New York Exposures and Breast Cancer (WEB) Study." *Cancer Epidemiol Biomarkers Prev* 30(5): 945-952.

**BACKGROUND:** There is growing evidence of an association between sugar-sweetened beverages (SSB) and increased risk of mortality in various populations. However, SSB influence on mortality

among patients with breast cancer is unknown. **METHODS:** We assessed the relationship between sugar-sweetened soda and both all-cause and breast cancer mortality among women with incident, invasive breast cancer from the Western New York Exposures and Breast Cancer Study. Breast cancer cases were followed for a median of 18.7 years, with ascertainment of vital status via the National Death Index. Frequency of sugar-sweetened soda consumption was determined via dietary recall using a food frequency questionnaire. Cox proportional hazards, adjusting for relevant variables, were used to estimate HRs and 95% confidence intervals (CI). **RESULTS:** Of the 927 breast cancer cases, 386 (54.7%) had died by the end of follow-up. Compared with never/rarely sugar-sweetened soda drinkers, consumption at  $\geq 5$  times per week was associated with increased risk of both total (HR = 1.62; 95% CI, 1.16-2.26;  $P$  trend  $< 0.01$ ) and breast cancer mortality (HR = 1.85; 95% CI, 1.16-2.94;  $P$  trend  $< 0.01$ ). Risk of mortality was similarly increased among ER-positive, but not ER-negative patients; among women with body mass index above the median, but not below the median; and among premenopausal, but not postmenopausal women for total mortality only. **CONCLUSIONS:** Reported higher frequency of sugar-sweetened soda intake was associated with increased risks of both total and breast cancer mortality among patients with breast cancer. **IMPACT:** These results support existing guidelines on reducing consumption of SSB, including for women with a diagnosis of breast cancer.

Lara, O. D., et al. (2020). "COVID-19 outcomes of patients with gynecologic cancer in New York City." *Cancer* 126(19): 4294-4303.

**BACKGROUND:** New York City (NYC) is the epicenter of severe acute respiratory syndrome coronavirus 2 (coronavirus disease 2019 [COVID-19]) in the United States. Clinical characteristics and outcomes of vulnerable populations, such as those with gynecologic cancer who develop COVID-19 infections, is limited. **METHODS:** Patients from 6 NYC-area hospital systems with known gynecologic cancer and a COVID-19 diagnosis were identified. Demographic and clinical outcome data were abstracted through a review of electronic medical records. **RESULTS:** Records for 121 patients with gynecologic cancer and COVID-19 were abstracted; the median age at the COVID-19 diagnosis was 64.0 years (interquartile range, 51.0-73.0 years). Sixty-six of the 121 patients (54.5%) required hospitalization; among the hospitalized patients, 45 (68.2%) required respiratory intervention, 20 (30.3%) were admitted to the intensive care unit, and 9 (13.6%) underwent invasive mechanical ventilation. Seventeen patients (14.0%)

died of COVID-19 complications. No patient requiring mechanical ventilation survived. On multivariable analysis, hospitalization was associated with an age  $\geq 64$  years (risk ratio [RR], 1.73; 95% confidence interval [CI], 1.18-2.51), African American race (RR, 1.56; 95% CI, 1.13-2.15), and 3 or more comorbidities (RR, 1.43; 95% CI, 1.03-1.98). Only recent immunotherapy use (RR, 3.49; 95% CI, 1.08-11.27) was associated with death due to COVID-19 on multivariable analysis; chemotherapy treatment and recent major surgery were not predictive of COVID-19 severity or mortality. **CONCLUSIONS:** The case fatality rate among gynecologic oncology patients with a COVID-19 infection is 14.0%. Recent immunotherapy use is associated with an increased risk of mortality related to COVID-19 infection. **LAY SUMMARY:** The case fatality rate among gynecologic oncology patients with a coronavirus disease 2019 (COVID-19) infection is 14.0%; there is no association between cytotoxic chemotherapy and cancer-directed surgery and COVID-19 severity or death. As such, patients can be counseled regarding the safety of continued anticancer treatments during the pandemic. This is important because the ability to continue cancer therapies for cancer control and cure is critical.

Lara, O. D., et al. (2022). "COVID-19 outcomes of patients with gynecologic cancer in New York City: An updated analysis from the initial surge of the pandemic." *Gynecol Oncol* **164**(2): 304-310.

**BACKGROUND:** Despite significant increase in COVID-19 publications, characterization of COVID-19 infection in patients with gynecologic cancer remains limited. Here we present an update of COVID-19 outcomes among people with gynecologic cancer in New York City (NYC) during the initial surge of severe acute respiratory syndrome coronavirus 2 (coronavirus disease 2019 [COVID-19]). **METHODS:** Data were abstracted from gynecologic oncology patients with COVID-19 infection among 8 NYC area hospital systems between March and June 2020. Multivariable logistic regression was utilized to estimate associations between factors and COVID-19 related hospitalization and mortality. **RESULTS:** Of 193 patients with gynecologic cancer and COVID-19, the median age at diagnosis was 65.0 years (interquartile range (IQR), 53.0-73.0 years). One hundred six of the 193 patients (54.9%) required hospitalization; among the hospitalized patients, 13 (12.3%) required invasive mechanical ventilation, 39 (36.8%) required ICU admission. Half of the cohort (49.2%) had not received anti-cancer treatment prior to COVID-19 diagnosis. No patients requiring mechanical ventilation survived. Thirty-four of 193 (17.6%) patients died of COVID-19 complications. In multivariable analysis, hospitalization was associated

with an age  $\geq 65$  years (odds ratio [OR] 2.12, 95% confidence interval [CI] 1.11, 4.07), Black race (OR 2.53, CI 1.24, 5.32), performance status  $\geq 2$  (OR 3.67, CI 1.25, 13.55) and  $\geq 3$  comorbidities (OR 2.00, CI 1.05, 3.84). Only former or current history of smoking (OR 2.75, CI 1.21, 6.22) was associated with death due to COVID-19 in multivariable analysis. Administration of cytotoxic chemotherapy within 90 days of COVID-19 diagnosis was not predictive of COVID-19 hospitalization (OR 0.83, CI 0.41, 1.68) or mortality (OR 1.56, CI 0.67, 3.53). **CONCLUSIONS:** The case fatality rate among patients with gynecologic malignancy with COVID-19 infection was 17.6%. Cancer-directed therapy was not associated with an increased risk of mortality related to COVID-19 infection.

Leder Macek, A. J., et al. (2021). "Validation of rule-based algorithms to determine colorectal, breast, and cervical cancer screening status using electronic health record data from an urban healthcare system in New York City." *Prev Med Rep* **24**: 101599.

Although cancer screening has greatly reduced colorectal cancer, breast cancer, and cervical cancer morbidity and mortality over the last few decades, adherence to cancer screening guidelines remains inconsistent, particularly among certain demographic groups. This study aims to validate a rule-based algorithm to determine adherence to cancer screening. A novel screening algorithm was applied to electronic health record (EHR) from an urban healthcare system in New York City to automatically determine adherence to national cancer screening guidelines for patients deemed eligible for screening. First, a subset of patients was randomly selected from the EHR and their data were exported in a de-identified manner for manual review of screening adherence by two teams of human reviewers. Interrater reliability for manual review was calculated using Cohen's Kappa and found to be high in all instances. The sensitivity and specificity of the algorithm was calculated by comparing the algorithm to the final manual dataset. When assessing cancer screening adherence, the algorithm performed with a high sensitivity (79%, 70%, 80%) and specificity (92%, 99%, 97%) for colorectal cancer, breast cancer, and cervical cancer screenings, respectively. This study validates an algorithm that can effectively determine patient adherence to colorectal cancer, breast cancer, and cervical cancer screening guidelines. This design improves upon previous methods of algorithm validation by using computerized extraction of essential components of patients' EHRs and by using de-identified data for manual review. Use of the described algorithm could allow for more precise and



efficient allocation of public health resources to improve cancer screening rates.

Leng, J., et al. (2022). "Primary Care Providers' Knowledge, Attitudes, Beliefs, and Practice Related to Lung Cancer Screening in Five High-Risk Communities in New York City." *J Cancer Educ* **37**(3): 631-640.

Racial/ethnic minorities face stark inequalities in lung cancer incidence, treatment, survival, and mortality compared with US born non-Hispanic Whites. Lung cancer screening (LCS) with low-dose computed tomography (LDCT) is effective at reducing lung cancer mortality in high-risk current and former smokers and is recommended by the US Preventive Services Task Force (USPSTF). This study sought to assess primary care providers' (PCPs') knowledge, attitudes, beliefs, and practice related to LCS and the recent USPSTF guidelines in five high-risk immigrant communities in New York City. We surveyed 83 eligible PCPs between December 2016 and January 2018 through surveys sent by mail, email, and fax, administered by phone or in person. The survey included questions about providers' clinical practice, knowledge, attitudes, and beliefs related to LCS and the USPSTF guidelines. Information about patient demographics, PCPs' training background, and practice type were also collected. Sixty-seven percent of respondents reported that they did not have established guidelines for LCS at their practice, and 52% expressed that "vague" screening criteria influenced their referral processes for LCS. Barriers to LCS with LDCT included concerns that LDCT is not covered by insurance, patients' fears of screening results, and patients' concerns regarding radiation exposure. Targeted educational interventions for both PCPs and patients may increase access to recommended LCS, especially for populations at disproportionate risk for lung cancer.

Levine, A. M. and D. B. Gerstle (2020). "Female breast cancer mortality in relation to puberty on Staten Island, New York." *AIMS Public Health* **7**(2): 344-353.

Pursuant to a Congressional act in 2008, the Department of Health and Human Services established the Interagency Breast Cancer and Environmental Research Coordinating Committee to address the burden of breast cancer in the United States. Subsequently, the Committee recommended researchers study the timing of exposure to breast cancer risk factors. Given the high breast cancer mortality rate on Staten Island, this paper presents a case-control study investigating breast cancer risk associated with puberty while living on Staten Island. The dataset combined New York City Department of Health and Mental Hygiene female death certificate

information between 1985 and 2006, with life history information from newspaper obituaries. Data analyzed included: age, length of residence on Staten Island, birth on Staten Island, and residence on Staten Island during puberty. Cases were individuals who died of breast cancer and controls were individuals who died of non-malignant causes. Analysis included multivariate logistic regression on the full dataset and multiple replicates of randomized one case to two controls simulations. Results indicated that living on Staten Island during puberty (ages 9-19) was associated with an elevated risk of dying from breast cancer (odds ratio 1.35,  $p < 0.001$ , 95% CI = 1.18, 1.55). This paper suggests the importance of studying puberty as a window of susceptibility for breast cancer risk.

Li, A. J., et al. (2019). "Distribution of Organohalogen and Synthetic Musk Compounds in Breast Adipose Tissue of Breast Cancer Patients in Ulster County, New York, USA." *Arch Environ Contam Toxicol* **77**(1): 68-78.

We determined the concentrations of 98 halogenated organic compounds and synthetic musks in breast fat tissues of 50 breast cancer patients (age range: 34-77 years) collected during 1996-1998 in Ulster County, New York, USA. Polychlorinated biphenyls (PCBs), organochlorine pesticides (OCPs), polybrominated biphenyl 153 (PBB-153), polybrominated diphenyl ethers (PBDEs), and synthetic musk compounds (SMCs) were analyzed in breast fat tissues, and 46 analytes were found at a detection frequency of  $\geq 65\%$  and at concentrations in the decreasing order of OCPs > PCBs > SMCs > PBDEs > PBB-153. PCBs (median: 323 ng/g wet wt) and dichlorodiphenyltrichloroethanes (DDTs, median: 293 ng/g wet wt) were the major compounds found in breast fat tissues. Among PCB congeners, hexa- and hepta-chlorobiphenyls (60% of total PCBs) were the abundant ones. p,p'-DDE accounted for more than 99% of the total DDT concentrations. The concentrations of SMCs and PBDEs were 1-2 orders of magnitude lower than those of PCBs and DDTs. 1,3,4,6,7,8-Hexahydro-4,6,6,7,8,8-hexamethylcyclopenta-r-2-benzopyran (median: 33 ng/g wet wt) was the most abundant SMC, whereas BDE-47 (median: 4.5 ng/g wet wt) was the most dominant PBDE congener present in breast tissues. A significant correlation ( $p < 0.05$ ) between women's age and concentrations of DDTs, chlordanes, hexachlorobenzene and PCBs in breast tissues was found. Concentrations of PCBs, PBDEs, OCPs, and SMCs were not significantly different between malignant and benign tumor cases. This study adds baseline information on target tissue burdens of persistent organic contaminants in breast cancer patients.

Li, J., et al. (2016). "Performance of Self-Report to Establish Cancer Diagnoses in Disaster Responders and Survivors, World Trade Center Health Registry, New York, 2001-2007." *Public Health Rep* **131**(3): 420-429.

**OBJECTIVE:** Large-scale disasters may disrupt health surveillance systems, depriving health officials and researchers of timely and accurate information needed to assess disaster-related health effects and leading to use of less reliable self-reports of health outcomes. In particular, ascertainment of cancer in a population is ordinarily obtained through linkage of self-reported data with regional cancer registries, but exclusive reliance on these sources following a disaster may result in lengthy delays or loss of critical data. To assess the impact of such reliance, we validated self-reported cancer in a cohort of 59,340 responders and survivors of the World Trade Center disaster against data from 11 state cancer registries (SCRs). **METHODS:** We focused on residents of the 11 states with SCRs and on cancers diagnosed from September 11, 2001, to the date of their last survey participation. Medical records were also sought in a subset of 595 self-reported cancer patients who were not recorded in an SCR. **RESULTS:** Overall sensitivity and specificity of self-reported cancer were 83.9% (95% confidence interval [CI] 81.9, 85.9) and 98.5% (95% CI 98.4, 98.6), respectively. Site-specific sensitivities were highest for pancreatic (90.9%) and testicular (82.4%) cancers and multiple myeloma (84.6%). Compared with enrollees with true-positive reports, enrollees with false-negative reports were more likely to be non-Hispanic black (adjusted odds ratio [aOR] = 1.8, 95% CI 1.2, 2.9) or Asian (aOR=2.2, 95% CI 1.2, 4.1). Among the 595 cases not recorded in an SCR, 13 of 62 (21%) cases confirmed through medical records were reportable to SCRs. **CONCLUSION:** Self-report of cancer had relatively high sensitivity among adults exposed to the World Trade Center disaster, suggesting that self-reports of other disaster-related conditions less amenable to external validation may also be reasonably valid.

Lin, D., et al. (2018). "Delivery of adjuvant chemotherapy among stage III colon cancer patients at a public versus private hospital in New York City." *Cancer Causes Control* **29**(2): 253-260.

**PURPOSE:** Prior studies of timeliness of adjuvant chemotherapy (AC) initiation in stage III colon cancer have suggested longer time to AC at public compared with private hospitals. Few studies have explored differences in AC completion. We investigated whether timely initiation and completion of AC differed between a public and private hospital, affiliated with the same academic institution in a large, urban setting. **METHODS:** We conducted a retrospective cohort study of stage III colon cancer

patients who had surgery and AC at the same medical center between 2008 and 2015, either at its affiliated public hospital (n = 43) or private hospital (n = 79). We defined timely initiation as receiving AC within 60 days postoperatively, and completion as receiving  $\geq$  75% of planned AC. Univariate and stepwise multivariable logistic regressions were used to identify factors associated with AC delivery. **RESULTS:** Median number of days to AC was significantly greater among patients at the public (53, range 31-231) compared with the private hospital (43, range 25-105; p = 0.002). However, the percentage of patients with timely AC initiation did not differ substantially by hospital (74 vs 81%, p = 0.40). In multivariable analysis, age (OR 0.95/year, 95% CI 0.91-0.99) and laparoscopic versus open surgery (OR 5.65, 95% CI 1.92-16.62) were significant factors associated with timely AC initiation. Moreover, AC completion did not differ significantly between public (83.7%) and private (89.9%) hospital patients (p = 0.32). **CONCLUSIONS:** The proportions of patients with timely initiation and completion of AC were similar at a public and private hospital affiliated with a large, urban medical center. Future research should investigate how specific system-level factors help alleviate this expected difference in timely care delivery.

Lin, D. D., et al. (2020). "Chemotherapy Treatment Modifications During the COVID-19 Outbreak at a Community Cancer Center in New York City." *JCO Glob Oncol* **6**: 1298-1305.

**PURPOSE:** As a result of their immunocompromised status associated with disease and treatment, patients with cancer face a profound threat for higher rates of complications and mortality if they contract the coronavirus disease 2019 infection. Medical oncology communities have developed treatment modifications to balance the risk of contracting the virus with the benefit of improving cancer-related outcomes. **METHODS:** We systemically examined our community cancer center database to display patterns of change and to unveil factors that have been considered with each decision. We studied a cohort of 282 patients receiving treatment and found that 159 patients (56.4%) had treatment modifications. **RESULTS:** The incidence of treatment modification was observed in patients undergoing adjuvant and neoadjuvant (41.4%), palliative (62.9%), or injectable endocrine or bone-modulating only (76.0%) treatments. Modifications were applied to regimens with myelosuppressive (56.5%), immunosuppressive (69.2%), and immunomodulating (61.5%) potentials. These modifications also affected intravenous (54.9%) and subcutaneous injectable treatments (62.5%) more than oral treatments (15.8%). Treatment modifications in 112 patients (70.4%) were recommended by

providers, and 47 (29.6%) were initiated by patients. The most common strategy of modification was to skip or postpone a scheduled treatment (49%). Among treatment with no modifications, treatment regimens were maintained in patients who tolerated treatment well (37.0%), in treatments with curative intent (22%), and in symptomatic patients who required treatment (14%). **CONCLUSION:** Our observation and analysis suggested that the primary goal of treatment modification was to decrease potential exposure. The pattern also reflected the negative impact of the pandemic on health care providers who initiated these changes. Providers have to consider individualized recommendations incorporating multiple factors, such as tolerance, potential toxicity, treatment nature and route, and disease severity.

Liu, B., et al. (2021). "Trends of hospitalizations among patients with both cancer and dementia diagnoses in New York 2007-2017." *Healthc (Amst)* **9**(3): 100565.

**BACKGROUND:** Cancer and dementia have often been studied in isolation. We aimed to examine the spatiotemporal trend of inpatient admissions with both cancer and dementia diagnoses. **METHODS:** Using state-wide inpatient claims data, we identified all hospital admissions for patients aged  $\geq 50$  years with both cancer and dementia diagnoses in New York State, 2007-2017. We examined the spatiotemporal trend of the admission using a novel Bayesian hierarchical model adjusting for socioeconomic factor, as measured by Yost index. **RESULTS:** Admissions with the presence of both cancer and dementia diagnoses represented 8.5% of all admissions with a cancer diagnosis, and the proportion increased from 7.1% in 2007 to 9.7% in 2017. The median admission rate was 3.5 (interquartile range: 2.2-5.2) hospitalizations per 1000 population aged  $\geq 50$  years, which increased from 2.9 in 2007 to 3.7 in 2017. The admission rate peaked first in 2010 followed by a smaller peak in 2014, before stabilizing at a level higher than the pre-2010 period. Taking into account the spatiotemporal heterogeneity, we found that hospitalizations among those with both cancer and dementia diagnoses were associated with a higher socioeconomic status (the posterior median relative risk for Yost index = 1.046 (95% credible interval: 1.033-1.058)). **CONCLUSIONS:** Hospitalizations of patients with both cancer and dementia increased over time. Cancer care providers and healthcare systems should be prepared to provide prevention and management strategies and engage in complex medical decision-making for this increasingly common patient population comprised of individuals with cancer and dementia.

Luke, B., et al. (2016). "Embryo banking among women diagnosed with cancer: a pilot population-based study in New York, Texas, and Illinois." *J Assist Reprod Genet* **33**(5): 667-674.

**PURPOSE:** The purpose of the present study is to estimate the proportion of women with cancer who return to use the embryos that they have banked and to compare this proportion to that of women without cancer who bank embryos. **METHODS:** This is a cohort study of three groups of women from New York, Texas, and Illinois who used embryo banking in their first assisted reproductive technology (ART) treatment cycle: two groups with cancer (222 women without an infertility diagnosis and 48 women with an infertility diagnosis) and a control group without cancer (68 women with the infertility diagnosis of male factor only). Women were included only if their first ART cycle reported to the Society for Assisted Reproductive Technology Clinic Outcome Reporting System (SART CORS) occurred between 2004 and 2009. Cancer cases were identified from each State Cancer Registry from 5 years prior to initiation of ART treatment to 6 months post-initiation; mean follow-up after the first ART cycle was 2.0 years. **RESULTS:** Women with cancer without an infertility diagnosis returned for a subsequent ART cycle at a lower rate (10.8 %) than those with an infertility diagnosis (31.3 %,  $p = 0.0010$ ) or the control group (85.3 %,  $p < 0.0001$ ). Among those who returned for a subsequent cycle, women with cancer waited a longer time to return (14.3 months without an infertility diagnosis and 8.3 months with an infertility diagnosis,  $p = 0.13$ ) compared to the control group (2.8 months,  $p = 0.0007$ ). The live birth rate among women who did not utilize embryo banking in their second cycle did not differ significantly across the three study groups, ranging from 25.0 and 42.9 % for women with cancer with and without an infertility diagnosis, respectively, to 36.2 % for women in the control group. **CONCLUSIONS:** Women with cancer without an infertility diagnosis are either less likely to return for subsequent treatment or will wait a longer time to return than women with an infertility diagnosis or those that do not have cancer. A longer-term study is necessary to assess whether these women return to use their frozen embryos after cancer treatment or are able to spontaneously conceive and if those subsequent pregnancies are adversely affected by the cancer diagnosis or therapy.

Mehta, V., et al. (2020). "Case Fatality Rate of Cancer Patients with COVID-19 in a New York Hospital System." *Cancer Discov* **10**(7): 935-941.

Patients with cancer are presumed to be at increased risk from COVID-19 infection-related fatality due to underlying malignancy, treatment-

related immunosuppression, or increased comorbidities. A total of 218 COVID-19-positive patients from March 18, 2020, to April 8, 2020, with a malignant diagnosis were identified. A total of 61 (28%) patients with cancer died from COVID-19 with a case fatality rate (CFR) of 37% (20/54) for hematologic malignancies and 25% (41/164) for solid malignancies. Six of 11 (55%) patients with lung cancer died from COVID-19 disease. Increased mortality was significantly associated with older age, multiple comorbidities, need for ICU support, and elevated levels of D-dimer, lactate dehydrogenase, and lactate in multivariate analysis. Age-adjusted CFRs in patients with cancer compared with noncancer patients at our institution and New York City reported a significant increase in case fatality for patients with cancer. These data suggest the need for proactive strategies to reduce likelihood of infection and improve early identification in this vulnerable patient population. SIGNIFICANCE: COVID-19 in patients with cancer is associated with a significantly increased risk of case fatality, suggesting the need for proactive strategies to reduce likelihood of infection and improve early identification in this vulnerable patient population. This article is highlighted in the In This Issue feature, p. 890.

Mo, A., et al. (2021). "Breast cancer survivorship care during the COVID-19 pandemic within an urban New York Hospital System." *Breast* **59**: 301-307.

PURPOSE: To examine clinicodemographic determinants associated with breast cancer survivorship follow-up during COVID-19. METHODS: We performed a retrospective, population-based cohort study including early stage (Stage I-II) breast cancer patients who underwent resection between 2006 and 2018 in a New York City hospital system. The primary outcome was oncologic follow-up prior to and during the COVID-19 pandemic. Secondary analyses compared differences in follow-up by COVID-19 case rates stratified by ZIP code. RESULTS: A total of 2942 patients with early-stage breast cancer were available for analysis. 1588 (54%) of patients had attended follow-up in the year prior to the COVID-19 period but failed to continue to follow-up during the pandemic, either in-person or via telemedicine. 1242 (42%) patients attended a follow-up appointment during the COVID-19 pandemic. Compared with patients who did not present for follow-up during COVID-19, patients who continued their oncologic follow-up during the pandemic were younger ( $p = 0.049$ ) more likely to have received adjuvant radiation therapy ( $p = 0.025$ ), and have lower household income ( $p = 0.031$ ) on multivariate modeling. When patients who live in Bronx, New York, were stratified by ZIP code, there was a modest negative association ( $r = -0.56$ ) between

COVID-19 cases and proportion of patients who continued to follow-up during the COVID-19 period. CONCLUSION: We observed a dramatic disruption in routine breast cancer follow-up during the COVID-19 pandemic. Providers and health systems should emphasize reintegrating patients who missed appointments during COVID-19 back into regular surveillance programs to avoid significant morbidity and mortality from missed breast cancer recurrences.

Moir, W., et al. (2016). "Post-9/11 cancer incidence in World Trade Center-exposed New York City firefighters as compared to a pooled cohort of firefighters from San Francisco, Chicago and Philadelphia (9/11/2001-2009)." *Am J Ind Med* **59**(9): 722-730.

BACKGROUND: We previously reported a modest excess of cancer in World Trade Center (WTC)-exposed firefighters versus the general population. This study aimed to separate the potential carcinogenic effects of firefighting and WTC exposure by comparing to a cohort of non-WTC-exposed firefighters. METHODS: Relative rates (RRs) for all cancers combined and individual cancer subtypes from 9/11/2001 to 12/31/2009 were modeled using Poisson regression comparing 11,457 WTC-exposed firefighters to 8,220 urban non-WTC-exposed firefighters. RESULTS: Compared with non-WTC-exposed firefighters, there was no difference in the RR of all cancers combined for WTC-exposed firefighters (RR = 0.96, 95%CI: 0.83-1.12). Thyroid cancer was significantly elevated (RR = 3.82, 95%CI: 1.07-20.81) from 2001 to 2009; this was attenuated (RR = 3.43, 95%CI: 0.94-18.94) and non-significant when controlling for possible surveillance bias. Prostate cancer was elevated during the latter half (2005-2009; RR = 1.38, 95%CI: 1.01-1.88). CONCLUSIONS: Further follow-up is needed to assess the relationship between WTC exposure and cancers with longer latency periods. *Am. J. Ind. Med.* 59:722-730, 2016. (c) 2016 Wiley Periodicals, Inc.

Mynard, N., et al. (2022). "Lung Cancer Stage Shift as a Result of COVID-19 Lockdowns in New York City, a Brief Report." *Clin Lung Cancer* **23**(3): e238-e242.

INTRODUCTION: The COVID-19 pandemic reached New York City in early March 2020 resulting in an 11-week lockdown period to mitigate further spread. It has been well documented that cancer care was drastically affected as a result. Given New York City's early involvement, we attempted to identify any stage shift that may have occurred in the diagnoses of non-small cell lung cancer (NSCLC) at our institution as a result of these lockdowns. PATIENTS AND METHODS: We conducted a retrospective review of a prospective database of lung cancer patients at our



institution from July 1, 2019 until March 31, 2021. Patients were grouped by calendar year quarter in which they received care. Basic demographics and clinical staging were compared across quarters. RESULTS: Five hundred and fifty four patients were identified that underwent treatment during the time period of interest. During the lockdown period, there was a 50% reduction in the mean number of patients seen (15 +/- 3 vs. 28 +/- 7, P = .004). In the quarter following easing of restrictions, there was a significant trend towards earlier stage (cStage I/II) disease. In comparison to quarters preceding the pandemic lockdown, there was a significant increase in the proportion of patients with Stage IV disease in the quarters following phased reopening (P = .026). CONCLUSION: After a transient but significant increase in Stage I/II disease with easing of restrictions there was a significant increase in patients with Stage IV disease. Extended longitudinal studies must be conducted to determine whether COVID-19 lockdowns will lead to further increases in the proportion of patients with advanced NSCLC.

Nobel, T. B., et al. (2020). "Disparities in mortality-to-incidence ratios by race/ethnicity for female breast cancer in New York City, 2002-2016." *Cancer Med* 9(21): 8226-8234.

BACKGROUND: Racial disparities in New York City (NYC) breast cancer incidence and mortality rates have previously been demonstrated. Disease stage at diagnosis and mortality-to-incidence ratio (MIR) may present better measures of differences in screening and treatment access. Racial/ethnic trends in NYC MIR have not previously been assessed. METHODS: Mammogram rates were compared using the NYC Community Health Survey, 2002-2014. Breast cancer diagnosis, stage, and mortality were from the New York State Cancer Registry, 2000-2016. Primary outcomes were MIR, the ratio of age-adjusted mortality to incidence rates, and stage at diagnosis. Jointpoint regression analysis identified significant trends. RESULTS: Mammogram rates in 2002-2014 among Black and Latina women ages 40 and older (79.9% and 78.4%, respectively) were stable and higher than among White (73.6%) and Asian/Pacific-Islander women (70.4%) (P < .0001). There were 82 733 incident cases of breast cancer and 16 225 deaths in 2000-2016. White women had the highest incidence, however, rates among Black, Latina, and Asian/Pacific Islander women significantly increased. Black and Latina women presented with local disease (Stage I) less frequently (53.2%, 57.6%, respectively) than White (62.5%) and Asian/Pacific-Islander women (63.0%). Black women presented with distant disease (Stage IV) more frequently than all other groups (Black 8.7%, Latina 5.8%, White 6.0%, and Asian 4.2%).

Black women had the highest breast cancer mortality rate and MIR (Black 0.25, Latina 0.18, White 0.17, and Asian women 0.11). CONCLUSIONS: More advanced disease at diagnosis coupled with a slower decrease in breast cancer mortality among Black and Latina women may partially explain persistent disparities in MIR especially prominent among Black women. Assessment of racial/ethnic differences in screening quality and access to high-quality treatment may help identify areas for targeted interventions to improve equity in breast cancer outcomes.

Patel, S., et al. (2021). "A Population Health Equity Approach Reveals Persisting Disparities in Colorectal Cancer Screening in New York City South Asian Communities." *J Cancer Educ* 36(4): 804-810.

To assess colorectal cancer (CRC) screening among South Asians (SAs) and explore the challenges and facilitators to CRC screening among SA subgroups in New York City (NYC). Fifty-one semi-structured in-depth interviews and surveys were conducted among SA immigrants in NYC. Qualitative results suggested challenges to CRC screening were related to socio-cultural factors, such as a lack of knowledge on CRC and CRC screening, and structural factors, such as cost and language. A physician referral was the most cited facilitator to CRC screening. Participants reported culturally and linguistically adapted education and information on CRC and CRC screening would help to overcome noted challenges. Our findings support the development of targeted, linguistically and culturally adapted campaigns for this population that facilitate access to health systems and leverage natural community assets and social support systems.

Pathak, S., et al. (2021). "Continuing cancer care delivery during the peak of COVID-19 in the Bronx, New York: experience from a public teaching hospital." *Arch Med Sci* 17(4): 1109-1113.

INTRODUCTION: We report our experience with cancer care delivery during the peak of COVID-19 pandemic in New York City. METHODS: Retrospective analysis of the patients treated from the 1(st) of March, 2020 to the 8(th) of May, 2020. RESULTS: Team huddles, infection screening and patient selection strategies were implemented. One hundred and seventy patients were treated in 576 visits. Six developed severe COVID-19 requiring hospitalization, two died. Their median Charlson Comorbidity Index was 9, higher than the rest of the cohort. CONCLUSIONS: Cancer care delivery is safe and feasible using an approach focused on careful patient selection, team communication and infection control.

Phillips, S., et al. (2019). "You Have to Keep a Roof Over Your Head": A Qualitative Study of Housing Needs Among Patients With Cancer in New York City." *J Oncol Pract* **15**(8): e677-e689.

**PURPOSE:** Housing status can become compromised in the wake of financial hardship for some patients with cancer and become a source of disparity. This qualitative study describes the types of housing issues experienced by patients with cancer and survivors of cancer in New York City. **METHODS:** Semistructured interviews were conducted with a volunteer sample of 21 patients with cancer or survivors of cancer treated in New York City who reported housing needs in the period after diagnosis through survivorship. Nine supplemental interviews were conducted with cancer and housing key informants. Conventional content analysis was conducted on transcripts to create a codebook describing types of housing needs. **RESULTS:** Patients and survivors most commonly had breast (n = 9) and blood (n = 4) cancers and ranged from recently diagnosed to many years posttreatment. Twenty-nine distinct housing-related issues were identified, which were grouped into the following six major categories: housing costs (eg, rent, mortgage), home loss, doubled up or unstable housing, housing conditions, accessibility (eg, stairs, proximity to amenities), and safety. Issues were often interrelated. Housing needs sometimes predated cancer diagnosis. Other issues newly emerged in the wake of cancer-related physical limitations and disruption to finances. Needs ranged in severity and caused patients and survivors considerable burden during a difficult period of poor health and financial strain. **CONCLUSION:** This study contributes depth to current understandings of housing needs among patients with cancer and survivors by providing detailed disaggregated descriptions. We recommend increasing availability of services responsive to these needs and exploring promising options such as patient navigation and legal services. Findings also highlight the importance of creative solutions addressing ecologic-level factors such as housing affordability.

Pinheiro, P. S., et al. (2018). "Cancer Site-Specific Disparities in New York, Including the 1945-1965 Birth Cohort's Impact on Liver Cancer Patterns." *Cancer Epidemiol Biomarkers Prev* **27**(8): 917-927.

**Background:** Analyses of cancer patterns by detailed racial/ethnic groups in the Northeastern United States are outdated. **Methods:** Using 2008-2014 death data from the populous and diverse New York State, mortality rates and regression-derived ratios with corresponding 95% confidence intervals (CIs) were computed to compare Hispanic, non-Hispanic white (NHW), non-Hispanic black (NHB), Asian populations, and specific Hispanic and NHB

subgroups: Puerto Rican, Dominican, South American, Central American, U.S.-born black, and Caribbean-born black. Special analyses on liver cancer mortality, given the higher prevalence of hepatitis C infection among the 1945-1965 birth cohort, were performed. **Results:** A total of 244,238 cancer-related deaths were analyzed. Mortality rates were highest for U.S.-born blacks and lowest for South Americans and Asians. Minority groups had higher mortality from liver and stomach cancer than NHWs; Hispanics and NHBs also had higher mortality from cervical and prostate cancers. Excess liver cancer mortality among Puerto Rican and U.S.-born black men was observed, particularly for the 1945-1965 birth cohort, with mortality rate ratios of 4.27 (95% CI, 3.82-4.78) and 3.81 (95% CI, 3.45-4.20), respectively. **Conclusions:** U.S.-born blacks and Puerto Ricans, who share a common disadvantaged socioeconomic profile, bear a disproportionate burden for many cancers, including liver cancer among baby boomers. The relatively favorable cancer profile for Caribbean-born blacks contrasts with their U.S.-born black counterparts, implying that race per se is not an inevitable determinant of higher mortality among NHBs. **Impact:** Disaggregation by detailed Hispanic and black subgroups in U.S. cancer studies enlightens our understanding of the epidemiology of cancer and is fundamental for cancer prevention and control efforts. *Cancer Epidemiol Biomarkers Prev*; **27**(8); 917-27. (c)2018 AACR.

Press, R. H., et al. (2020). "Quantifying the Impact of COVID-19 on Cancer Patients: A Technical Report of Patient Experience During the COVID-19 Pandemic at a High-volume Radiation Oncology Proton Center in New York City." *Cureus* **12**(4): e7873.

The COVID-19 pandemic has rapidly spread across the world and now affects more people within the United States than any other country. New York City has emerged as the epicenter of the outbreak in the United States. Both locally and across the country, there is great concern in our ability to deliver appropriate medical care during this time. Radiation therapy is another essential clinical service that cannot afford to suffer prolonged delays without compromising patient outcomes. Early action and guidance are therefore critical to minimize transmission events and ensure safe and timely delivery of radiation therapy. The New York Proton Center (NYPC) is a high-volume free-standing multi-institutional proton center located in Manhattan. The purpose of this report is to describe the institutional patient experience and quantify the impact of treatment delays and interruptions over the first month of the COVID-19 outbreak. We also quantify the incidence of COVID-19

positive patients on census and provide guidance on proactive institutional policies to mitigate patient risk.

Proj, A., et al. (2022). "Impact of New York State's Medicaid Breast Cancer Selective Contracting Policy on Access and Quality of Care Outcomes." *Am J Med Qual* **37**(2): 127-136.

The New York State Medicaid Breast Cancer Selective Contracting policy was implemented in 2009 and mandates that Medicaid enrollees receive breast cancer surgery at high-volume hospital and ambulatory surgery facilities. This article evaluates the policy's impact on 8 access and quality of care measures pre-policy and post-policy implementation. Linked New York State (NYS) Cancer Registry, Statewide Planning and Research Cooperative System, and NYS Medicaid encounter and claim data were used to calculate measures. Interrupted time series analysis was conducted to estimate the change in measure rates pre-policy and post-policy implementation. Findings indicate that the policy was successful in shifting surgeries from low- to high-volume facilities and that high-volume facilities outperformed low-volume facilities on several access and quality of care measures.

Ramachandran, P., et al. (2020). "COVID-19 in Cancer Patients From New York City: A Comparative Single Center Retrospective Analysis." *Cancer Control* **27**(1): 1073274820960457.

In this retrospective study we analyze and compare clinical characteristics and outcomes of patients with and without cancer history who were infected with novel coronavirus disease 19 (COVID-19). Medical records were reviewed and a comparative analysis of 53 cancer and 135 non-cancer patients with COVID-19 were summarized. Results: The median age for COVID-19 patients with and without cancer was 71.5 and 61.6 years, respectively. Patients aged 60 years and above were 86.8% and 60.7% in cancer and non-cancer groups, respectively. A high proportion of cases were seen in African Americans 73.6% (with cancer) and 75.6% (without cancer) followed by Hispanic patients. Male and female patients had a high percentage of prostate (39.3%) and breast (32%) cancer respectively. Prostate cancer (18.9%) and myeloma (11.3%) were common among solid and hematological cancers respectively. Hypertension and smoking were prevalent among cancer (83% and 41.5%) compared to non-cancer (67.4% and 9.6%) patients. The common symptoms in cancer patients were dyspnea (64.2%) followed by fever and cough (50.9%) compared to fever (68.1%) and cough (66.7%) in non-cancer patients. Cancer patients had higher levels of lactic acidosis, C-reactive protein, lactate dehydrogenase, and alkaline phosphatase than non-cancer patients ( $p <$

0.05). Conclusions: Rapid clinical deterioration was seen in cancer patients who were aged 60 years and above. Higher mortality was seen in this subgroup, especially when they had associated hypertension and elevated levels of CRP and LDH.

Rastogi, N., et al. (2019). "Disparities in colorectal cancer screening in New York City: An analysis of the 2014 NYC Community Health Survey." *Cancer Med* **8**(5): 2572-2579.

**BACKGROUND & AIMS:** Disparities in colorectal cancer (CRC) screening uptake by race/ethnicity, socioeconomic status, and geography are well documented. We sought to further characterize the relationship between sociodemographic factors and up-to-date colonoscopy use in a diverse urban center using the 2014 New York City Community Health Survey (NYCCHS). **METHODS:** We examined overall colonoscopy uptake by race/ethnicity-with a particular interest in Asian and Hispanic subgroups-and used weighting to represent the entire 2014 NYC adult population. We also evaluated the association between 10 sociodemographic variables (age, sex, race/ethnicity, birthplace, home language, time living in the US, education, employment, income, and borough of residence) and colonoscopy use using univariable and multivariable logistic regression models. **RESULTS:** Up-to-date colonoscopy uptake was 69% overall with reported differences by racial/ethnic group, ranging from 44%-45% for Mexicans and Asian Indians to 75% for Dominicans. In the multivariable regression model, colonoscopy use was associated with age greater than 65 years, Chinese language spoken at home, and not being in the labor force. Lower colonoscopy use was associated with living in the US for less than 5 years, Asian Indian language spoken at home, lower income, and residing outside of Manhattan. **CONCLUSIONS:** Among New Yorkers older than age 50, up-to-date colonoscopy use varied significantly by race/ethnicity, especially in Asian and Hispanic subgroups. Recent immigrants, low-income groups, and those living outside of Manhattan were significantly less likely to receive CRC screening. Targeted interventions to promote CRC screening in these underserved groups may improve overall screening uptake.

Ravikumar, S., et al. (2022). "Geographic disparities in head and neck cancer survival in Upstate New York 2011-2019." *Head Neck* **44**(2): 472-482.

**PURPOSE:** To examine the association between distance to care-center and urban-rural residence on 5-year overall survival (OS) from head and neck cancer (HNC). **MATERIALS AND METHODS:** Five-year OS was retrospectively measured from date of initial diagnosis for patients

with HNC treated at a single tertiary care center. Distances were calculated based on ZIP code of patient's residence and care center. Multilevel Weibull regression was used to adjust for confounders and identify disparities in 5-year all-cause mortality. RESULTS: A total of 670 patients included in study. Multivariable analysis revealed older age or late-stage cancer at diagnosis, and HPV negative status were associated with poorer OS. Patients residing in isolated small rural town (HR = 2.20,  $p = 0.015$ ) or small rural town (HR = 2.07,  $p = 0.015$ ) had lower OS. Distance to care center was not associated with OS (HR = 0.996,  $p = 0.11$ ). CONCLUSIONS: Greater rurality was associated with poorer OS among HNC patients in Upstate New York.

Regev, G. S. and A. M. Ser (2019). "Breast cancer medical malpractice litigation in New York: The past 10 years." *Breast* **46**: 1-3.

Medical error is a leading cause of preventable death in the U.S., with diagnostic errors comprising the majority of errors. Delay in diagnosing breast cancer is a unique multidisciplinary phenomenon involving primary care physicians, gynecologists, radiologists, pathologists, and general surgeons. The New York medical malpractice court system remains among the most active court systems in the country. The purpose of this study is to analyze the characteristics of medical malpractice litigation involving breast cancer in New York for the past 10 years. Jury verdicts and settlements from 2007 to 2017 were obtained from a computerized legal database and were analyzed. Data pertaining to defendants, plaintiffs, case outcomes, allegations, and verdicts were collected. The study identified 48 cases of litigation pertaining to breast cancer. Overall, 14 of the verdicts were won by defendants (46.7%). Among the plaintiffs' verdicts and settlements, the median payout was \$1.8 million (mean \$2.9) overall, \$2.6 million (mean \$4.3) for verdicts alone, and \$1.68 million (mean \$1.9) for settlements. The most commonly named specialty among the defendants was radiology (32) and the second was surgery (15). Inappropriate workup of mammography findings was alleged in 18 cases. The average delay to diagnosis was 13.4 months (sd 7.1). Fourteen cases involved diagnosis at stage 4, nine cases at stage 3, and fifteen at stage 2. The average verdict payout was more than two times higher than the average settlement payout. Errors leading to malpractice claims may be attributable in part to lapses in communication among medical providers involved in the workup of suspicious breast lesions.

Shah, S. C., et al. (2020). "Low baseline awareness of gastric cancer risk factors amongst at-risk multiracial/ethnic populations in New York City:

results of a targeted, culturally sensitive pilot gastric cancer community outreach program." *Ethn Health* **25**(2): 189-205.

Background and Aims: There are limited efforts to address modifiable risk factors for gastric cancer (GC) among racial/ethnic groups at higher GC risk, which may reflect decreased public awareness of risk factors. Our primary aim was to assess baseline awareness of GC risk factors and attitudes/potential barriers for uptake of a GC screening program among high-risk individuals. Methods: Participants attended a linguistically and culturally targeted GC educational program in East Harlem (EH)/Bronx and Chinatown communities in New York City. Demographic information and relevant behavioral/lifestyle habits were collected. Participants' ability to identify GC risk factors and attitudes/barriers surrounding GC screening were assessed before and after the program. Results: Of the 168 included participants, most were female with 77% above age 70. Nearly half of participants in the EH/Bronx programs identified themselves as black and 63% as Hispanic/Latino; 93% of the Chinatown participants identified as Chinese. Among EH/Bronx participants, the majority correctly identified older age, smoking, alcohol, H. pylori, family history, race/ethnicity, excess salt, and preserved foods as risk factors. Among Chinatown participants, the majority correctly identified smoking, alcohol, race/ethnicity, and excess salt, although only 53% and 57.8% correctly identified H. pylori and preserved foods, respectively; the majority incorrectly answered that older age was not a major risk factor. The majority in both groups failed to identify male gender as higher risk and incorrectly identified stress and obesity as major risk factors. Participants were more concerned about the potential findings on GC screening tests than the risks and costs or having to take time off work. Conclusion: Among multiracial/ethnic groups of individuals presumably at higher risk for GC, we identified several gaps in baseline knowledge of both modifiable and non-modifiable GC risk factors. Culturally and linguistically appropriate educational interventions may be a worthwhile adjunctive intervention within the context of a targeted GC screening program.

Smigelski, M., et al. (2021). "Differences in Use of Aggressive Therapy for Localized Prostate Cancer in New York City." *Clin Genitourin Cancer* **19**(1): e55-e62.

BACKGROUND: Socioeconomic factors may impact how a patient is treated for prostate cancer (CaP). Our objective was to determine if county of residence or neighborhood socioeconomic characteristics were associated with treatment for CaP in New York City (NYC). MATERIALS AND



**METHODS:** We used the NYSPACED database to identify men aged 40 to 80 years with localized CaP in NYC between 2004 and 2016. We categorized patients into receiving either aggressive local therapy (ALT) or non-aggressive treatment (NT). We identified borough of residence through NYSPACED and used Public Use Microdata Area (PUMA) designation to define neighborhood characteristics using United States Census data. We hypothesized that differences exist in use of ALT according to county of residence and neighborhood characteristics. We used multivariable logistic regression to test the association between county of residence and ALT as well as between ALT and PUMA characteristics. **RESULTS:** Our cohort included 40,668 patients. Overall, 80% had ALT, and 21% had NT. NT use increased over time from 16% in 2004 to 32% in 2016 ( $P < .001$ ). On multivariable logistic regression, patients in Manhattan were less likely to receive ALT compared with those in other boroughs ( $P < .001$ ). PUMAs with lower education attainment, larger foreign-born populations, lower crime rate, and higher median income were significantly associated with receipt of ALT ( $P < .05$ ). **CONCLUSIONS:** We observed significant differences in use of treatment for men with newly diagnosed CaP in NYC. The ability to receive this treatment was associated with borough of residence as well as neighborhood socioeconomic characteristics. Additional research is required to identify barriers in access to NT within NYC.

Taioli, E., et al. (2017). "Personal and hospital factors associated with limited surgical resection for lung cancer, in-hospital mortality and complications in New York State." *J Surg Oncol* **116**(4): 471-481.

**BACKGROUND AND OBJECTIVES:** Early stage lung cancer is generally treated with surgical resection. The objective of the study was to identify patient and hospital characteristics associated with the type of lung cancer surgical approach utilized in New York State (NYS), and to assess in-hospital adverse events. **METHODS:** A total of 33 960 lung cancer patients who underwent limited resection (LR) or lobectomy (L) were selected from the NYS Statewide Planning and Research Cooperative System database (1995-2012). **RESULTS:** LR patients were more likely to be older (adjusted odds ratio OR<sub>adj</sub> and [95% confidence interval]: 1.01 [1.01-1.02]), female (OR<sub>adj</sub> : 1.11 [1.06-1.16]), Black (OR<sub>adj</sub> : 1.17 [1.08-1.27]), with comorbidities (OR<sub>adj</sub> : 1.08 [1.03-1.14]), and treated in more recent years than L patients. Length of stay and complications were significantly less after LR than L (OR<sub>adj</sub> : 0.56 [0.53-0.58] and 0.65 [0.62-0.69]); in-hospital mortality was similar (OR<sub>adj</sub> : 0.93 [0.81-1.07]), and was positively associated with age and urgent/emergency admission, but inversely associated

with female gender, private insurance, recent admission year, and surgery volume. **CONCLUSIONS:** There was a growing trend toward LR, which was more likely to be performed in older patients with comorbidities. In-hospital outcomes were better after LR than L, and were affected by patient and hospital characteristics.

Tao, M. H., et al. (2016). "Associations of intakes of magnesium and calcium and survival among women with breast cancer: results from Western New York Exposures and Breast Cancer (WEB) Study." *Am J Cancer Res* **6**(1): 105-113.

Magnesium (Mg) and calcium (Ca) antagonizes each other in (re) absorption, cell cycle regulation, inflammation, and many other physiologic activities. However, few studies have investigated the association between magnesium and calcium intakes and breast cancer survival, and the interaction between calcium and magnesium intake. In a cohort of 1,170 women with primary, incident, and histologically confirmed breast cancer from Western New York State, we examined the relationship between intakes of these two minerals and survival. Cox regression models were used to estimate hazard ratios (HR) and 95% confidence intervals (95% CI). Mean follow-up time was 87.4 months after breast cancer diagnosis; there were 170 deaths identified. After adjustment for known prognostic factors, and intakes of energy, total vitamin D and total calcium, higher dietary intake of magnesium was inversely associated with risk of all-cause mortality (HR = 0.50, 95% CI, 0.28-0.90 for highest vs. lowest tertile;  $p$  trend = 0.02). Likewise, a marginal association was found for total Magnesium intake from foods and supplements combined (HR = 0.58, 95% CI, 0.31-1.08;  $p$  trend = 0.09). The inverse association of higher total magnesium intake with all-cause mortality was primarily presented among postmenopausal women and was stronger among women who had a high Ca:Mg intake ratio (>2.59). There were no clear associations for prognosis with intake of calcium. We found that magnesium intake alone may improve overall survival following breast cancer, and the association may be stronger among those with high Ca:Mg intake ratio.

Thomas, A. S., et al. (2022). "Socioeconomic Predictors of Access to Care for Patients with Operatively Managed Pancreatic Cancer in New York State." *J Gastrointest Surg*.

**PURPOSE:** We evaluated how race and socioeconomic factors impact access to high-volume surgical centers, treatment initiation, and postoperative care for pancreatic cancer in a state with robust safety net insurance coverage and healthcare infrastructure. **METHODS:** The New York Statewide Planning and Research Cooperative System was analyzed. Patients

with pancreatic cancer resected from 2007 to 2017 were identified by ICD and CPT codes. Primary outcomes included surgery at low-volume facilities (< 20 pancreatectomies/year), time to therapy initiation, and time to postoperative surveillance imaging (within 60-180 days after surgery). RESULTS: In total, 3312 patients underwent pancreatectomy across 124 facilities. Median age was 67 years (IQR 59, 75) and 55% of patients were male. Most (72.7%) had surgery at high-volume centers. On multivariable analysis, odds ratios for surgery at low-volume centers were increased for Black race (2.21 (95% CI 1.69-2.88)), Asian race (1.64 (95% CI 1.09-2.43)), Hispanic ethnicity (1.68 (95% CI 1.24-2.28)), Medicaid insurance (2.52 (95% CI 1.79-3.56)), no insurance (2.24 (95% CI 1.38-3.61)), lowest income quartile (3.31 (95% CI 2.14-5.32)), and rural zip code (2.49 (95% CI 1.69-3.65)). Patients treated at low-volume centers waited longer to initiate treatment (hazard ratio (HR) 0.91 (95% CI 0.81-1.01)). Black patients underwent the least surveillance imaging (50.4%;  $p < 0.0001$ ), while Asian (HR 2.04, 95% CI 1.40-2.98) and Hispanic patients (HR 1.36 (95% CI 1.00-1.84)) were more likely to have surveillance imaging. CONCLUSIONS: Race independently affected access to high-volume facilities and surveillance imaging. When considered in light of other accumulating evidence, future efforts might investigate the perceptions and logistical considerations noted by providers and patients alike to identify the etiology of these disparities and then institute corrective measures.

Timoney, M. T., et al. (2022). Screening for Cervical Dysplasia and Cancer in Adults With HIV. Baltimore (MD).

This guideline on cervical cancer screening for adults with HIV was developed by the New York State Department of Health (NYSDOH) AIDS Institute (AI) to inform primary care providers and other practitioners in NYS about screening for cervical dysplasia in patients with HIV. The goal of cervical screening is to identify and treat precancerous lesions to prevent cervical cancer. Comprehensive primary care for adults with HIV includes access to antiretroviral therapy (ART) and screening, diagnosis, and treatment of gynecologic comorbidities, especially cervical dysplasia and cancer. Screening for cervical and anogenital tract cancer is appropriate for all adult patients; this guideline provides standards of care for cervical, vaginal, and genital screening for patients with HIV. Inclusive and culturally sensitive healthcare that acknowledges the needs of transgender, transmasculine, transfeminine, and nonbinary patients should include an anatomical inventory that identifies which organs are present and absent to determine and meet the screening and healthcare needs of each patient regardless of their gender expression.

Tsui, S. T., et al. (2021). "The risk of female-specific cancer after bariatric surgery in the state of New York." Surg Endosc **35**(8): 4267-4274.

BACKGROUND: Obesity is a known risk factor for many cancers. Although bariatric surgery has been associated with a decrease in the risk of developing cancer, data on the effect of bariatric surgery on female-specific cancers are limited. This study aimed to assess the impact of bariatric interventions on the development of endometrial, ovarian and breast cancer. METHODS: The New York Statewide Planning and Research Cooperative System database was used to identify all female patients without a pre-existing cancer diagnosis who had a diagnosis of obesity between 2006 and 2012. The risk of having female-specific cancer diagnosis in patients who underwent bariatric surgery were compared with those who had no bariatric interventions using multivariable proportional sub-distribution hazard regression analysis. Subsequent cancer diagnoses were followed up to 2016. RESULTS: We identified 55,781 and 247,102 obese female patients who had and did not have bariatric surgery, respectively. The overall incidence of female-specific cancer was 2.69% and 2.09% for the non-surgery and surgery groups, respectively ( $p < 0.0001$ ). Surgery patients were less likely to develop female-specific cancers [hazard ratio (HR) 0.78; 95% CI 0.73-0.83;  $p < 0.0001$ ]. Patients undergoing Roux-en-Y gastric bypass had a lower risk of developing female-specific cancer than laparoscopic sleeve gastrectomy (HR 0.66; 95% CI 0.51-0.87;  $p = 0.0056$ ) and laparoscopic adjustable gastric banding (HR 0.83; 95% CI 0.69-0.99;  $p = 0.0056$ ) patients. CONCLUSIONS: Patients undergoing bariatric surgery have a lower incidence of endometrial, female breast and ovarian cancer than non-surgery obese patients. These data suggest that bariatric interventions may reduce the risk of female-specific cancers.

Van Beck, K. C., et al. (2018). "Colorectal Cancer Incidence and Mortality Rates Among New York City Adults Ages 20-54 years during 1976-2015." JNCI Cancer Spectr **2**(4): pky048.

Colorectal cancer (CRC) incidence rates are rising in younger Americans and mortality rates are increasing among younger white Americans. We used New York State Cancer Registry data to examine New York City CRC incidence and mortality trends among adults ages 20-54 years by race from 1976 to 2015. Annual percent change (APC) was considered statistically significant at  $P$  less than .05 using a two-sided test. CRC incidence increased among those ages 20-49 years, yet blacks had the largest APC of 2.2% (1993-2015; 95% confidence interval [CI] = 1.4% to 3.1%) compared with 0.5% in whites (1976-2015; 95%

CI = 0.2% to 0.7%). Among those aged 50-54 years, incidence increased among blacks by 0.8% annually (1976-2015; 95% CI = 0.4% to 1.1%), but not among whites. CRC mortality decreased among both age and race groups. These findings emphasize the value of local registry data to understand trends locally, the importance of timely screening, and the need for clinicians to consider CRC among all patients with compatible signs and symptoms.

van Gerwen, M., et al. (2022). "Trends for In- and Outpatient Thyroid Cancer Surgery in Older Adults in New York State, 2007-2017." *J Surg Res* **273**: 64-70.

**BACKGROUND:** In view of the 2013 American Thyroid Association consensus statement on outpatient thyroidectomy, the present study assessed the trends and factors associated with thyroid cancer surgery setting in older adults, using the New York Statewide Planning and Research Cooperative System database. **MATERIALS AND METHODS:** There were 14,495 patients with surgically treated thyroid cancer in New York State between 2007 and 2017. Trends were plotted over time and stratified by surgery type. Significance of the trend was assessed using the Mann-Kendall test. Multivariable logistic regression was used to assess independent associations with surgical setting. **RESULTS:** The overall outpatient surgery rate significantly increased over time (correlation coefficient 0.82;  $P < 0.001$ ), for both total thyroidectomy ( $P < 0.001$ ) and lobectomy ( $P < 0.001$ ). Factors associated with increased odds of inpatient surgery were medium- and high-volume hospitalization (adjusted odds ratio [ORadj] 2.12, 95% confidence interval [CI] 1.93-2.32; ORadj 1.69, 95% CI 1.55-1.85, respectively) versus low volume, undergoing total thyroidectomy (ORadj 1.75, 95% CI 1.61-1.90), as well as having Medicare insurance (ORadj 1.13, 95% CI 1.02-1.24) versus private insurance. **CONCLUSIONS:** The present study shows that outpatient thyroidectomy is increasingly favored over inpatient thyroidectomy over time in an older patient population. A clear change point following 2011 preceded the publication of the American Thyroid Association statement on outpatient thyroidectomy in 2013 and was likely associated with multiple publications reporting safety of outpatient thyroid surgery and clear economic benefits.

Van Manh, A. L., et al. (2020). "Identifying Factors Associated with Cancer Screening in Immigrant Populations Living in New York City." *J Community Health* **45**(5): 1027-1029.

New York City rates for cancer screening with colonoscopy, Papanicolaou smear and mammography are higher than the rest of the nation yet immigrant populations still have barriers accessing healthcare.

With 38% of the city identifying as foreign born, there is a growing need to understand immigrant health and cancer screening behaviors to better assist them in accessing care. Through the Hepatitis Outreach Network (HONE), almost 1300 consenting participants completed a questionnaire on their demographics, hepatitis risk factors, and cancer screening behaviors as well as accessed Hepatitis B Virus screening from 2013 to 2015. Using the information gathered from the completed surveys and the data analysis in 2016, age and English language proficiency had significant association to accessing cancer screening using the three noted methods. Overall, cancer screening rates were lower for the African born (54%), Asian born (23.9%) and US born (22%) participants than those of the rest of New York. English language proficiency appeared to be a barrier for some screening methods such as colorectal cancer screening with colonoscopy, and cervical cancer with Papanicolaou smear but not mammography. Immigrant health is a fundamental part of the public health field and so further investigation into disparities associated with other cancer screening methods is a necessity. An increase in culturally sensitive, language and age-specific health education programs may also improve cancer screening rates for immigrant populations in the city.

Vaughn, C. B., et al. (2018). "Sleep and Breast Cancer in the Western New York Exposures and Breast Cancer (WEB) Study." *J Clin Sleep Med* **14**(1): 81-86.

**STUDY OBJECTIVES:** Night shift work is associated with increased breast cancer risk, possibly from altered sleep. Epidemiologic evidence is sparse regarding sleep disturbances and breast cancer tumor markers. We examined sleep disturbance in association with breast tumor aggressiveness and mortality following diagnosis. **METHODS:** We analyzed associations of measures of sleep disturbance in a sample of 1,122 incident breast cancer cases from the Western New York Exposures and Breast Cancer (WEB) Study. Sleep disturbance was assessed using self-administered questionnaires; responses about difficulty falling asleep, waking up frequently, having trouble staying asleep, and waking up feeling tired and worn out were used to create a summary sleep disturbance score. We used general linear models to examine associations of sleep disturbance with markers of tumor aggressiveness among cases: estrogen receptor (ER) status, progesterone receptor (PR) status, and human epidermal growth factor receptor-2 (HER2) status; tumor size, stage, grade, lymph node involvement, and presence of metastasis. In addition, we examined the association between sleep disturbance and survival using Cox regression. **RESULTS:** Among breast cancer cases, sleep disturbance was higher for women with ER- / PR- tumors compared to women

with ER+ / PR+ tumors, even after adjusting for potential covariates (P for trend = .02). Results suggest that the association of sleep quality differs by menopausal status, where mild sleep disturbance is associated with higher breast cancer mortality in premenopausal women; however, we had a relatively small sample size. CONCLUSIONS: Sleep disturbance may be associated with aggressive subtypes of breast cancer; however, further studies are needed.

Wang, H., et al. (2019). "Expression of New York esophageal squamous cell carcinoma 1 and its association with Foxp3 and indoleamine-2,3-dioxygenase in microenvironment of nonsmall cell lung cancer." *HLA* **94**(1): 39-48.

Lung cancer is one of the most prevalent and fatal cancer worldwide. The traditional treatments including surgery, radiotherapy, chemotherapy and targeted therapy are not satisfactory because of severe side effects and/or relapse. Genetically engineered T-cell-based immunotherapy for malignant cancer shows promise in recent clinical trials. T-cell receptor (TCR)-engineered T cells targeting New York esophageal squamous cell carcinoma 1 (NY-ESO-1) have been employed in a number of clinical trials for late stage melanoma, synovial sarcoma, multiple myeloma and other malignancies. Owing to the significant efficacy and controllable side effect, NY-ESO-1 has been considered as one of the most ideal TCR-engineered T cell therapy (TCR-T) cell target for solid tumors, including nonsmall cell lung cancer (NSCLC). However, the incidence of NY-ESO-1 expression and its relationship with immunosuppressive microenvironment of NSCLC are largely unclear. In this study, we analyzed the expression of NY-ESO-1 and two key immune regulators, Forkhead box P3 (Foxp3) and indoleamine-2,3-dioxygenase (IDO), in 156 NSCLC specimens by immunohistochemistry. Our results showed that NY-ESO-1 positive rate is 28.1% (44/156) and significantly higher in distal metastasis (P = 0.012) and late stage (P = 0.019) NSCLC patients. In addition, we found that NY-ESO-1 expression was positively associated with Foxp3 level but not IDO. These findings implied the potential role of NY-ESO-1 in tumor immune escape of NSCLC and indicated the requirement to remove Treg cells in TCR-T cell therapy for NSCLC patients.

Wang, Y., et al. (2018). "Mining co-occurrence and sequence patterns from cancer diagnoses in New York State." *PLoS One* **13**(4): e0194407.

The goal of this study is to discover disease co-occurrence and sequence patterns from large scale cancer diagnosis histories in New York State. In particular, we want to identify disparities among different patient groups. Our study will provide

essential knowledge for clinical researchers to further investigate comorbidities and disease progression for improving the management of multiple diseases. We used inpatient discharge and outpatient visit records from the New York State Statewide Planning and Research Cooperative System (SPARCS) from 2011-2015. We grouped each patient's visit history to generate diagnosis sequences for seven most popular cancer types. We performed frequent disease co-occurrence mining using the Apriori algorithm, and frequent disease sequence patterns discovery using the cSPADE algorithm. Different types of cancer demonstrated distinct patterns. Disparities of both disease co-occurrence and sequence patterns were observed from patients within different age groups. There were also considerable disparities in disease co-occurrence patterns with respect to different claim types (i.e., inpatient, outpatient, emergency department and ambulatory surgery). Disparities regarding genders were mostly found where the cancer types were gender specific. Supports of most patterns were usually higher for males than for females. Compared with secondary diagnosis codes, primary diagnosis codes can convey more stable results. Two disease sequences consisting of the same diagnoses but in different orders were usually with different supports. Our results suggest that the methods adopted can generate potentially interesting and clinically meaningful disease co-occurrence and sequence patterns, and identify disparities among various patient groups. These patterns could imply comorbidities and disease progressions.

Wang, Y. X., et al. (2021). "The Co-Expression of Melanoma-Antigen Family a Proteins and New York Esophageal Squamous Cell Carcinoma-1 in Breast Cancer: A Pilot Study." *Cancer Manag Res* **13**: 6123-6128.

**OBJECTIVE:** The aim of this study was to quantify the expression of melanoma-antigen family A proteins (MAGE-A) and New York esophageal squamous cell carcinoma-1 (NY-ESO-1) in breast cancer and establish the prognosis of breast cancer patients with MAGE-A and NY-ESO-1 co-expression. **METHODS:** A total of 122 patients with breast cancer were recruited for this study. Their clinicopathological data were collected retrospectively, and the MAGE-A and NY-ESO-1 expressions in paraffin-embedded specimens from the 122 patients were evaluated using immunohistochemical analysis. In addition, the survival states of the patients were recorded. **RESULTS:** Fifty-four patients (44.26%) were MAGE-A positive and 46 (37.70%) were NY-ESO-1 positive. Interestingly, 22 of the 46 NY-ESO-1-positive cases co-expressed MAGE-A. The expression of MAGE-A was positively associated with estrogen-receptor status



( $\chi^2 = 4.026$ ,  $p = 0.045$ ) and human epidermal growth factor receptor 2 status ( $\chi^2 = 5.482$ ,  $p = 0.019$ ), while the expression of NY-ESO-1 was positively associated with p53 expression ( $\chi^2 = 4.541$ ,  $p = 0.033$ ). Of the 122 patients, the lowest survival rate was observed in patients with NY-ESO-1 (+)/MAGE-A (+), with a 5-year survival rate of 59.09% and a median survival of 97 months. CONCLUSION: The results showed that MAGE-A and NY-ESO-1 were frequently expressed in breast cancer patients. The co-expression of MAGE-A and NY-ESO-1 occurred in about 18% of these patients, and it may indicate a poor prognosis.

Weiss, D., et al. (2016). "A Survey of Oral Cancer Screening Insurance Coverage in New York City." *NY State Dent J* 82(2): 22-26.

Clinical studies show that fewer than 25% of people who visit a dentist regularly are screened for oral cancer, and that the majority of oral cancers present at an advanced stage, when cure rates are already abysmal. This study explores the current status of oral cancer screening coverage among a variety of insurance providers in New York City. The study focuses on determining the coverage and frequency of the cluster of salient CDT (dental) codes surrounding oral cancer screenings.

Wyatt, L. C., et al. (2022). "A Culturally Adapted Breast and Cervical Cancer Screening Intervention Among Muslim Women in New York City: Results from the MARHABA Trial." *J Cancer Educ*.

We examine the efficacy of MARHABA, a social marketing-informed, lay health worker (LHW) intervention with patient navigation (PN), to increase breast and cervical cancer screening among Muslim women in New York City. Muslim women were eligible if they were overdue for a mammogram and/or a Pap test. All participants attended a 1-h educational seminar with distribution of small media health education materials, after which randomization occurred. Women in the Education + Media + PN arm received planned follow-ups from a LHW. Women in the Education + Media arm received no further contact. A total of 428 women were randomized into the intervention (214 into each arm). Between baseline and 4-month follow-up, mammogram screening increased from 16.0 to 49.0% in the Education + Media + PN arm ( $p < 0.001$ ), and from 14.7 to 44.6% in the Education + Media arm ( $p < 0.001$ ). Pap test screening increased from 16.9 to 42.3% in the Education + Media + PN arm ( $p < 0.001$ ) and from 17.3 to 37.1% in the Education + Media arm ( $p < 0.001$ ). Cancer screening knowledge increased in both groups. Between group differences were not statistically significant for screening and knowledge outcomes. A longer follow-

up period may have resulted in a greater proportion of up-to-date screenings, given that many women had not yet received their scheduled screenings. Findings suggest that the educational session and small media materials were perhaps sufficient to increase breast and cervical cancer screening among Muslim American women. ClinicalTrials.gov NCT03081507.

Wyatt, L. C., et al. (2021). "Disparities in colorectal cancer screening among South Asians in New York City: a cross-sectional study." *J Cancer Educ*.

Despite improvements in colorectal cancer (CRC) screening in New York City (NYC) since the early 2000s, the degree to which disparities persist for specific Asian American subgroups has yet to be fully elucidated. The purpose of this study is to examine disparities in rates of timely colonoscopy screening among five racial/ethnic groups in NYC. We performed a retrospective cross-sectional analysis of combined 2014-2018 NYC Community Health Survey data. Prevalence estimates of timely colonoscopy screening (within the past 10 years) among individuals  $\geq 50$  years of age were calculated and presented overall ( $n = 24,288$ ) and by socio-demographic variables. Racial/ethnic categories included White, Black, Hispanic, East Asian, and South Asian. Multivariable models examined socio-demographic and racial/ethnic predictors of timely colonoscopy screening. A trend analysis examined colonoscopy screening by race/ethnicity and year from 2012 to 2018 ( $n = 33,130$ ). Age-adjusted prevalence of timely colonoscopy screening was lowest among Asian Americans (South Asian 61.1% and East Asian 65.9%) compared to Hispanics (71.3%), Blacks (70.2%), and Whites (68.6%). Adjustment by socio-demographics, including insurance status, further explained disparities for South Asians (adjusted risk ratio [RR] = 0.84, 95% CI = 0.73-0.97) compared to Hispanics; additionally, Whites (adjusted RR=0.88, 95% CI = 0.84-0.92) were less likely to have received a timely colonoscopy compared to Hispanics. Age, health insurance, poverty group, and education were significant predictors in adjusted regression. Results indicate that South Asians have not equally benefited from campaigns to increase colonoscopy screening in NYC. Our findings support the development of targeted, and linguistically and culturally adapted campaigns that facilitate access to health systems and leverage existing community assets and social support systems among South Asian populations.

Yerram, P., et al. (2021). "Outpatient clinical pharmacy practice in the face of COVID-19 at a cancer center in New York City." *J Oncol Pharm Pract* 27(2): 389-394.

PURPOSE: With the rapid spread of COVID-19 in New York City since early March 2020,

innovative measures were needed for clinical pharmacy specialists to provide direct clinical care safely to cancer patients. Allocating the workforce was necessary to meet the surging needs of the inpatient services due to the COVID-19 outbreak, which had the potential to compromise outpatient services. We present here our approach of restructuring clinical pharmacy services and providing direct patient care in outpatient clinics during the pandemic. **DATA SOURCES:** We conducted a retrospective review of electronic clinical documentation involving clinical pharmacy specialist patient encounters in 9 outpatient clinics from March 1, 2020 to May 31, 2020. The analysis of the clinical pharmacy specialist interventions and the impact of the interventions was descriptive. **DATA SUMMARY:** As hospital services were modified to handle the surge due to COVID-19, select clinical pharmacy specialists were redeployed from the outpatient clinics or research blocks to COVID-19 inpatient teams. During these 3 months, clinical pharmacy specialists were involved in 2535 patient visits from 9 outpatient clinics and contributed a total of 4022 interventions, the majority of which utilized telemedicine. The interventions provided critical clinical pharmacy care during the pandemic and omitted 199 in-person visits for medical care. **CONCLUSION:** The swift transition to telemedicine allowed the provision of direct clinical pharmacy services to patients with cancer during the COVID-19 pandemic.

Zeig-Owens, R., et al. (2016). "Agreement Between Self-Reported and Confirmed Cancer Diagnoses in New York City Firefighters and EMS Workers, 2001-2011." *Public Health Rep* **131**(1): 153-159.

**OBJECTIVES:** Because of the delay in availability of cancer diagnoses from state cancer registries, self-reported diagnoses may be valuable in assessing the current cancer burden in many populations. We evaluated agreement between self-reported cancer diagnoses and state cancer registry-confirmed diagnoses among 21,437 firefighters and emergency medical service workers from the Fire Department of the City of New York. We also investigated the association between World Trade Center (WTC) exposure and other characteristics in relation to accurate reporting of cancer diagnoses. **METHODS:** Participants self-reported cancer status in questionnaires from October 2, 2001, to December 31, 2011. We obtained data on confirmed cancer diagnoses from nine state cancer registries, which we used as our gold standard. We calculated sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV), comparing self-reported cancer diagnoses with confirmed cancer diagnoses. We used multivariable logistic regression models to assess the

association between WTC exposure and correct self-report of cancer status, false-positive cancer reports, and false-negative cancer reports. **RESULTS:** Sensitivity and specificity for all cancers combined were 90.3% and 98.7%, respectively. Specificities and NPVs remained high in different cancer types, while sensitivities and PPVs varied considerably. WTC exposure was not associated with accurate reporting. **CONCLUSION:** We found high specificities, NPVs, and general concordance between self-reported cancer diagnoses and registry-confirmed diagnoses. Given the low population prevalence of cancer, self-reported cancer diagnoses may be useful for determining non-cancer cases. Because of the low sensitivities and PPVs for some individual cancers, however, case confirmation with state cancer registries or medical records remains critically important.

Zeinomar, N., et al. (2017). "Alcohol consumption and breast cancer-specific and all-cause mortality in women diagnosed with breast cancer at the New York site of the Breast Cancer Family Registry." *PLoS One* **12**(12): e0189118.

**PURPOSE:** Alcohol consumption is an established and important risk factor for breast cancer incidence in the general population. However, the relationship between alcohol and mortality among women with breast cancer is less clear. This study examines the effect of alcohol consumption on mortality in women affected with breast cancer at baseline from a high-risk family breast and ovarian cancer registry. **METHODS:** We studied 1116 women affected with breast cancer at baseline from the Metropolitan New York Registry. The examined reported alcohol consumption (total of beer, wine, liquor) was defined as the average number of drinks per week reported from age 12 to age at baseline. We assessed vital status of each participant using participant or family reported data and we used the National Death Index to supplement deaths reported through family updates. We used Cox proportional hazards models to estimate the association between alcohol intake and overall mortality (HRO), breast cancer-specific mortality (HRBC), and non-breast cancer mortality (HRNBC), adjusted for confounders. **RESULTS:** After a mean follow-up of 9.1 years, we observed 211 total deaths and 58 breast cancer deaths. Compared to non-drinkers, we found that both low and moderate to heavy levels of alcohol intake were not associated with greater overall mortality ( $\leq 3$  drinks/week: HRO: 0.66, 95% CI: 0.38-1.14);  $> 3$  drinks/week: HRO: 1.16, 95% CI: 0.85-1.58), breast cancer-specific mortality ( $\leq 3$  drinks/week: HRBC: 0.62, 95% CI: 0.19-2.03;  $> 3$  drinks/week: HRBC: 0.96, 95% CI: 0.49-1.89), or non-breast cancer-specific mortality ( $\leq 3$  drinks/week: HRNBC: 0.73,

95% CI: 0.32-1.6; >3 drinks/week: HRNBC: 1.18, 95% CI: 0.75-1.86). CONCLUSIONS: Alcohol intake reported from age 12 to age at baseline was not associated with overall or breast cancer-specific mortality in this cohort of affected women with a family history of breast cancer.

Zorogastua, K., et al. (2017). "Breast and Cervical Cancer Screening among US and non US Born African American Muslim Women in New York City." *AIMS Public Health* 4(1): 78-93.

**PURPOSE:** Health disparities related to breast and cervical cancer among African American and African-born Muslim women in the United States have been identified in previous literature. Our study aimed at exploring the breast and cervical screening rates and factors that influence this population's disposition to adhere to cancer screening exams. **METHODS:** Mixed methods were used to collect data with African American and African-born Muslim women in New York City. Data were collected from a total of 140 women; among them, 40 participated in four focus groups. **FINDINGS:** Focus groups revealed nine themes: healthcare practices; lack of knowledge/misconceptions; negative perceptions and fear; time; modesty; role of religion; role of men; role of community; stigma and shame. Among 130 women who reported their cancer screening status, 72.3% of those age 21 and over were adherent to cervical cancer screening; 20.0% never had a Pap test. Among women age 40 and over, 80.2% reported adherence to recommended mammogram; 12.8% never had one. Among women under age 40, 52.2% had their last clinical breast exam (CBE) less than three years ago. Among women age 40 and over, 75.0% were adherent to yearly CBE. **CONCLUSIONS:** While rates of screenings were above the national average and higher than expected, specific barriers and facilitators related to religious and health beliefs and attitudes that influence the decision to adhere to screening were revealed. These factors should be further explored and addressed to inform future research and strategies for promoting regular breast and cervical cancer screenings.

The above contents are the collected information from Internet and public resources to offer to the people for the convenient reading and information disseminating and sharing.

6/25/2022

## References

- [1]. Baidu. <http://www.baidu.com>. 2022.
- [2]. Cancer Biology. <http://www.cancerbio.net>. 2022.
- [3]. Google. <http://www.google.com>. 2022.
- [4]. Journal of American Science. <http://www.jofamericanscience.org>. 2022.
- [5]. Life Science Journal. <http://www.lifesciencesite.com>. 2022.
- [6]. Ma H, Chen G. Stem cell. The Journal of American Science 2005;1(2):90-92. doi:[10.7537/marsjas010205.14](https://doi.org/10.7537/marsjas010205.14). <http://www.jofamericanscience.org/journals/a-m-sci/0102/14-mahongbao.pdf>.
- [7]. Ma H, Cherng S. Eternal Life and Stem Cell. Nature and Science. 2007;5(1):81-96. doi:[10.7537/marsnsj050107.10](https://doi.org/10.7537/marsnsj050107.10). <http://www.sciencepub.net/nature/0501/10-0247-mahongbao-eternal-ns.pdf>.
- [8]. Ma H, Cherng S. Nature of Life. Life Science Journal 2005;2(1):7-15. doi:[10.7537/marslsj020105.03](https://doi.org/10.7537/marslsj020105.03). <http://www.lifesciencesite.com/lj/life0201/life-0201-03.pdf>.
- [9]. Ma H, Yang Y. Turritopsis nutricula. Nature and Science 2010;8(2):15-20. doi:[10.7537/marsnsj080210.03](https://doi.org/10.7537/marsnsj080210.03). [http://www.sciencepub.net/nature/ns0802/03\\_1279\\_hongbao\\_turritopsis\\_ns0802\\_15\\_20.pdf](http://www.sciencepub.net/nature/ns0802/03_1279_hongbao_turritopsis_ns0802_15_20.pdf).
- [10]. Ma H. The Nature of Time and Space. Nature and science 2003;1(1):1-11. doi:[10.7537/marsnsj010103.01](https://doi.org/10.7537/marsnsj010103.01). <http://www.sciencepub.net/nature/0101/01-ma.pdf>.
- [11]. Marsland Press. <http://www.sciencepub.net>. 2022; <http://www.sciencepub.org>. 2022.
- [12]. National Center for Biotechnology Information, U.S. National Library of Medicine. <http://www.ncbi.nlm.nih.gov/pubmed>. 2022.
- [13]. Nature and Science. <http://www.sciencepub.net/nature>. 2022.
- [14]. Stem Cell. <http://www.sciencepub.net/stem>. 2022.
- [15]. Wikipedia. The free encyclopedia. <http://en.wikipedia.org>. 2022.