Memorial Sloan Kettering Cancer Center

Working Towards More Equitable Cancer Outcomes: Addressing Social Determinants of Health

December 9, 2022

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Immigrant Health And Cancer Disparities Center

Towards Justice and Equity in Health

www. MSKCC.org

Immigrant Health and Cancer Disparities (IHCD) Center

Towards Justice and Equity in Health

Mission

To promote health equity for underrepresented communities, including immigrant communities

locally, nationally, globally

Research, Outreach, Patient and Community Engagement, Service Delivery, Training, Program and Policy Development

Interrelated

We use a social determinants lens in all of our work

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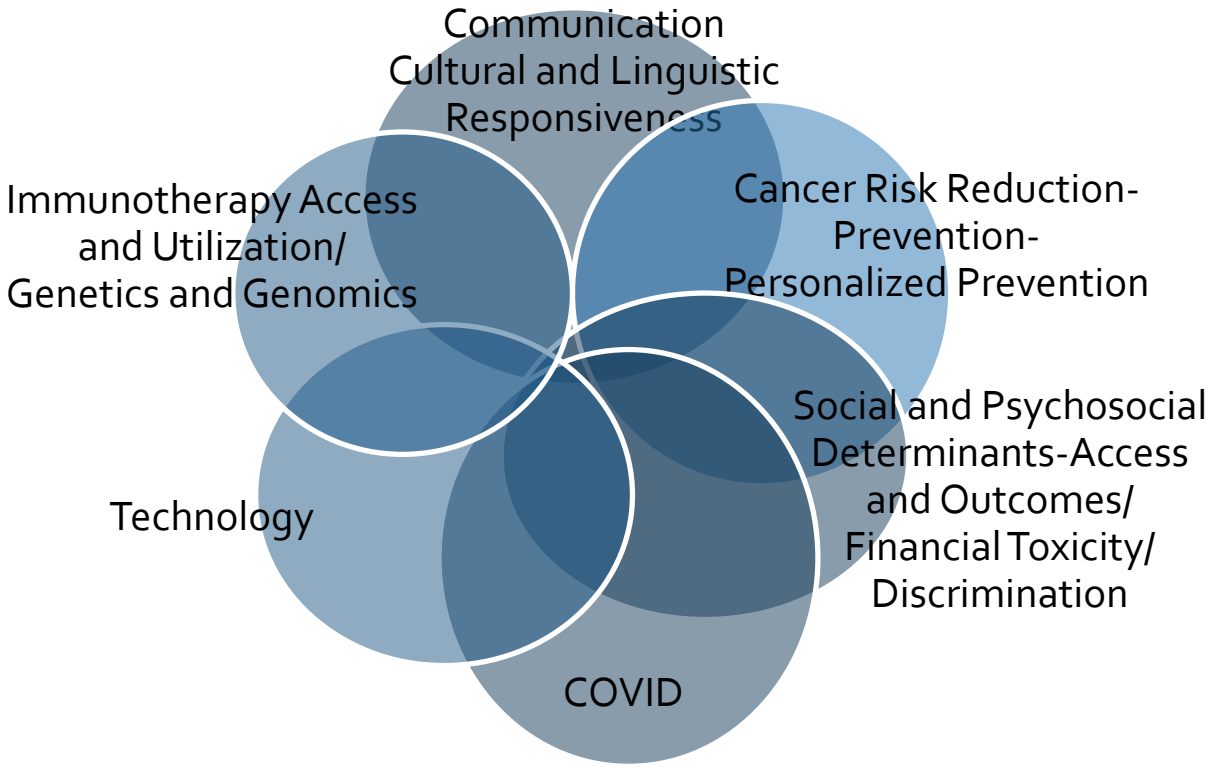
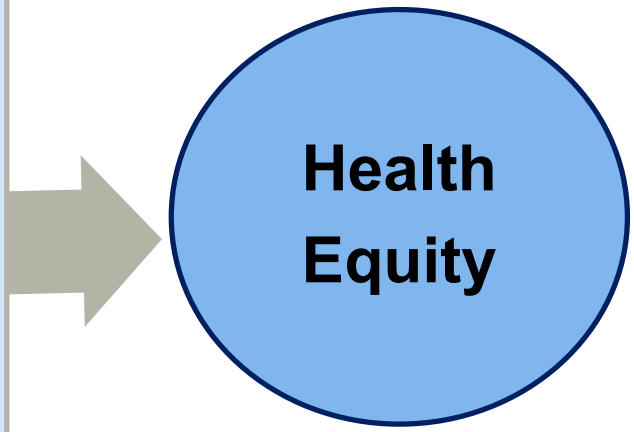
6 Intersecting Areas Across the Cancer Continuum



Addressing Socioeconomic Determinants of Cancer Disparities

Language
Literacy+Digital Divide
Culture (*e.g. Stigma*), including religion
Screening/Care Affordability and Accessibility
Insurance
Financial Toxicity of Treatment and Research
Income
Employment/Employment Outcomes
Food Security (Risk and Outcomes)
Housing
Immigration Status/Fears+Systemic Racism
Trust, Priorities, Program Eligibility
Environmental Exposures [work, home]



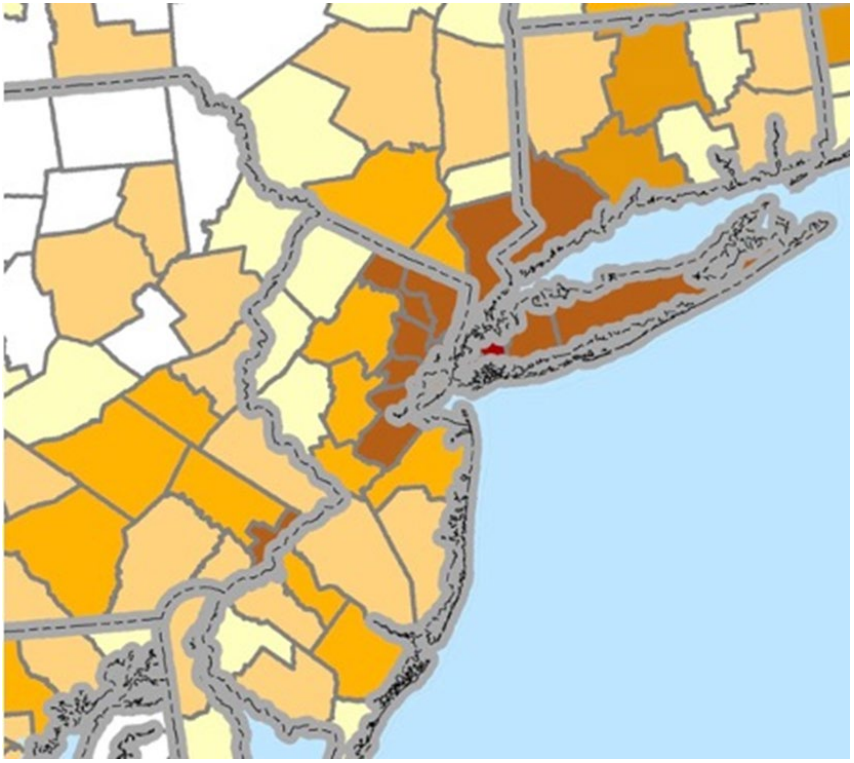
Patient Navigation Improves Outcomes

Today's Talk

- Social Determinants: Language, Immigration Status
- Communities at Risk…Meeting the Community where the Community Lives, Works, and Plays
  - Community-Level Interventions
    - SAHI, AHI, Latino Health Initiative, Chinese Health Initiative, West African Health Program
    - Taxi Network
    - Consulate
      - COMIDA
      - HPV Vaccination
- Individuals at Risk
  - Patient Level Interventions to Address Social Determinants

    Financial Toxicity
    - Navigation, FOOD, Housing, Telehealth Access

Limited English Proficiency



- Communication is the cornerstone of effective HPV education, care, and research
- **25% of New Yorkers:**
  - Spanish, Chinese languages, Russian, Bengali, Haitian Creole, Korean, French
- **16% of LEP patients** did not know their cancer diagnosis

What is your preferred language for health care?

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Interpreter Training: Reducing Errors in Communication Across the Language Barrier

- Study: Interpreter Training and Patient Safety
  - Scripted Breast Cancer Encounters: Trained and U&C Interpreters
  - Analyzed with an Error Analysis Tool
    - 27% of errors made by **untrained** interpreters of moderate or greater clinical significance vs. 8.5% of errors made by **trained** interpreters
    - Vocabulary precision rate .69 for trained vs. 0.34 for the untrained

  - *Dr: The results were positive which means that you carry the gene that puts you at risk for developing cancer*
  - *Int: The results were correct*

  - *Dr: One important thing that you have going for you is the fact that the cancer has probably been caught early*
  - *Int: One important thing is the fact that the cancer is working quickly in your body*

  - *Dr: The doxorubicin could hurt your heart*
  - *Int: The doxorubicin can give you pain*

  - Results have guided policy developments/NYS regulation

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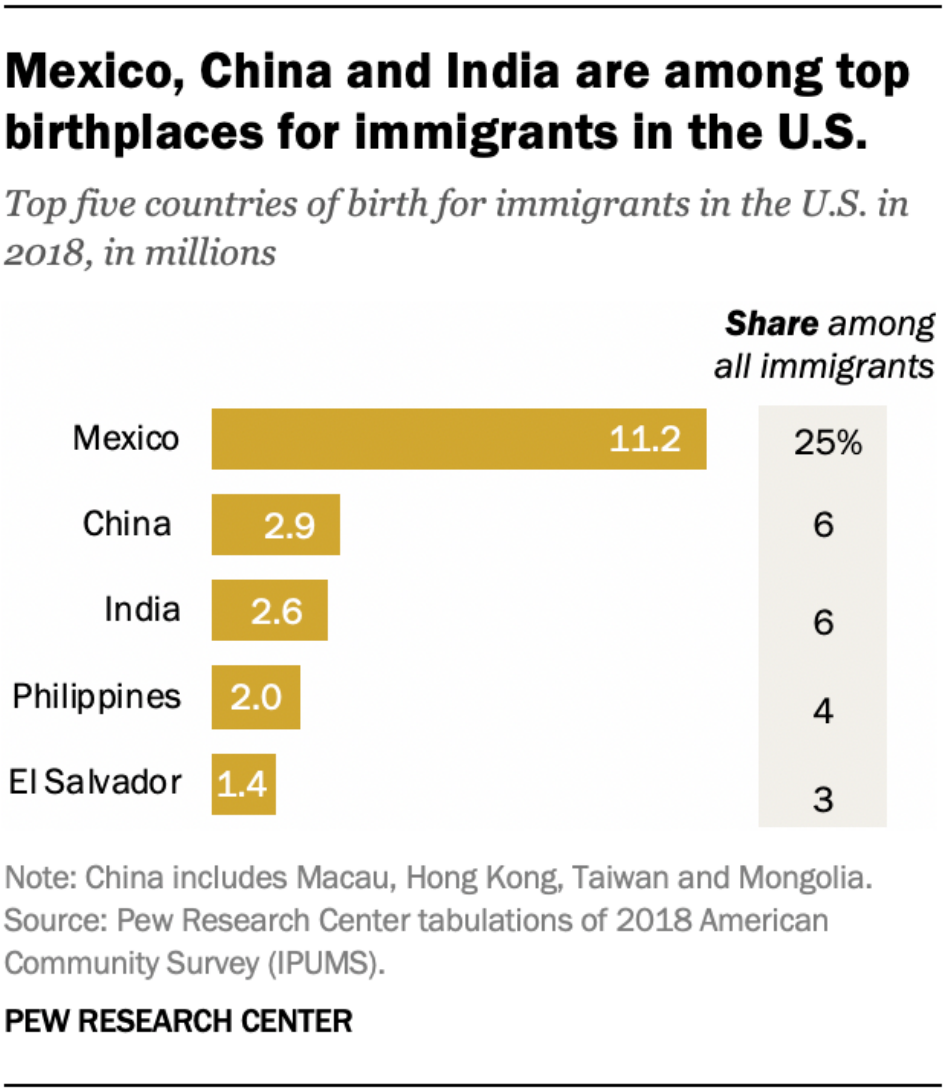
Language Access Interventions: PRO-CEL Core

- Materials/Instruments Translation and Transcreation(includes cultural adaptation)
- Conducting/analyzing qualitative research in patients'/community members' preferred languages
- Interpreter Training
- Bilingual Service/Research Navigators → Entry into clinical research, multilingual qual/quant research, CBPR
  - Resolve structural & logistical participation barriers
- Patient Portals
- Remote Simultaneous Medical Interpreting (UN-style)
  - Telemedicine Platform
  - 12 times fewer errors of moderate or greater clinical significance with RSMI
  - Encounters 1.5 times faster, + increased pt satisfaction

Immigration: Countries of Origin



Countries of Origin – New York City

Top 10 countries of Birth for Foreign-Born New York City Residents in 2020

	Country of Birth for NYC Immigrants	Population in 2020	% of all Foreign-born	Population in 2010	% Change
1	Dominican Republic	421,920	14.0	375,397	12.4
2	China	320,900	10.6	299,047	7.3
3	Jamaica	165,260	5.5	168,798	-2.1
4	Guyana	136,180	4.5	137,105	-0.7
5	Mexico	134,350	4.5	186,081	-27.8
6	Ecuador	126,800	4.2	137,604	-7.8
7	Bangladesh	91,980	3.1	56,454	62.9
8	Trinidad and Tobago	84,680	2.8	83,673	1.2
9	Haiti	78,250	2.6	94,686	-17.4
10	India	77,530	2.6	72,185	7.4

Source: NYC Mayor's Office of Immigrant Affairs, 2021 Annual Report

*137,618 African immigrants resided in NYC in 2019 (CUNY Baruch NYCdata)

Breast Cancer Disparities Among Immigrants

- Screening Foreign-born undergo mammography at lower rates than US-born
  - despite breast cancer being the leading cause of cancer death in most LIMCs[2]
- Diagnosis Foreign-born women more likely to be diagnosed at advanced stages[1]
  - Foreign-born 12% less likely to be diagnosed with localized breast cancer than US-born :true across regions of origin[1]
  - Both US-born and foreign-born Hispanic women more likely to be diagnosed at advanced-stage than US-born NHWs[4]
    - Foreign-born Hispanic patients more likely to present with advanced-stage breast cancer than foreign-born non-Hispanic white patients
  - Foreign-born Asian Americans higher risk of breast cancer than US-born AAs [3]
    - AA immigrants between 2.45-3X as likely to be diagnosed with breast ca than US-born AA women[3]
- Guideline-consistent Care/Precision Medicine

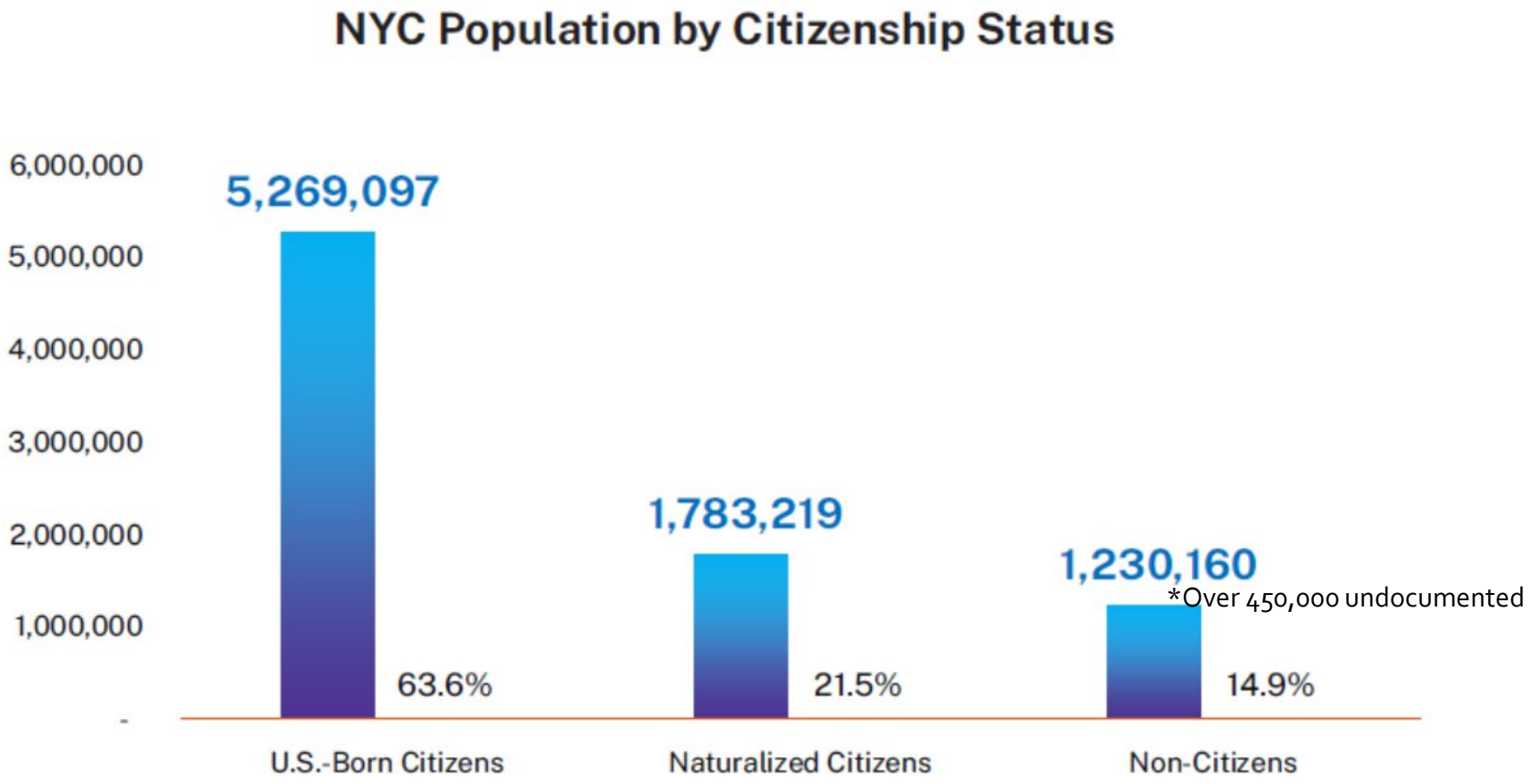
  - Genetic Screening
  - FB less likely to undergo indicated genetic screening Medicaid/Emergency Medicaid coverage, bilingua counselling availability , stigma
- Support Hispanic and non-Hispanic immigrants with breast cancer less likely to receive meds for pain, depression[5]

1. Herbach EL, et al. Disparities in breast cancer stage at diagnosis between immigrant and native-born women: A meta-analysis. Ann Epidemiol. 2021;54:64-72.e7. doi:10.1016/j.annepidem.2020.09.005
2. Walker PF, et al . Cancer Screening in Refugees and Immigrants: A Global Perspective [published online ahead of print, 2022 May 9]. Am J Trop Med Hyg. 2022;106(6):1593-1600. doi:10.4269/ajtmh.21-0698
3. Morey BN, et al. Higher Breast Cancer Risk Among Immigrant Asian American Women Than Among US-Born Asian American Women. Prev Chronic Dis. 2019;16:E20. Published 2019 Feb 14. doi:10.5888/pcd16.180221
4. Acosta S et al, Nativity Status With Quality of Breast Cancer Care for Hispanic Women and Non-Hispanic White Women in the United States. JAMA Surg. 2017;152(5):502-503. doi:10.1001/jamasurg.2016.5636
5. Pinheiro LC, et al Examining potential gaps in supportive medication use for US and foreign-born Hispanic women with breast cancer. Support Care Cancer. 2019;27(5):1639-1646. doi:10.1007/s00520-018-4406-8

Immigration Status: Determines Benefit Eligibility

- Naturalized Citizen: Eligible for all public health insurance options
- Permanent Resident (and Conditional Permanent Resident)
  - LPR-"green card holder"
    - Can buy private insurance on the exchange but need to have residence for 5 years to qualify for Medicaid. In New York can get coverage right away.
- Refugees and Asylees : Eligible for insurance on the Marketplace
- Non-immigrant: Ineligible for insurance on the Marketplace
  - Temporary Workers
- Without Status
  - Adults cannot buy health insurance on the Exchange, even if they pay in full
  - In NYS up to age 19 can get CHIP (Medicaid equivalent)
  - Medicaid for the Treatment of Emergency Conditions: "Emergency Medicaid"
  - Pay into Medicare but cannot access
- DACA (Deferred Action for Childhood Arrivals)
  - Can qualify for Medicaid in NY, California and Arizona, insurance on the exchange

New York City Demographics: Immigration Status



Source: NYC Mayor's Office on Immigrant Affairs, 2021 Annual Report

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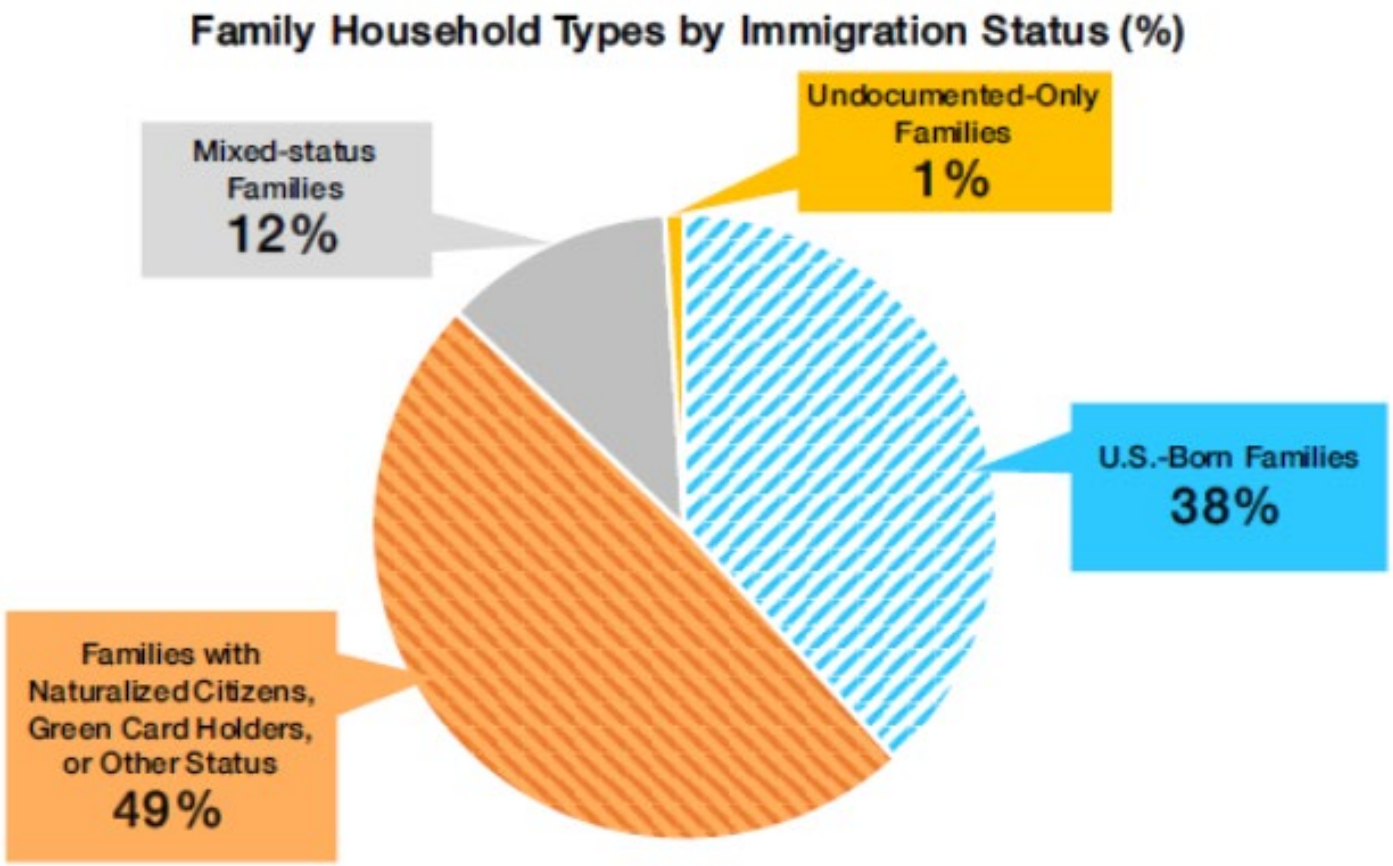
New York City Demographics: Family Immigration Status



Source: U.S. Census Bureau, 2019 American Community Survey 1-Year Public Use Microdata Sample as augmented by NYC Opportunity

Immigration Status: Public Charge

- In immigration law, a public charge determination is based on if someone is, or is likely to become, primarily dependent on the government for basic subsistence

- A public charge assessment is made when a person applies to enter the U.S. or applies to adjust status to become a lawful permanent resident (LPR)

- Determination is based on assessment of all relevant factors

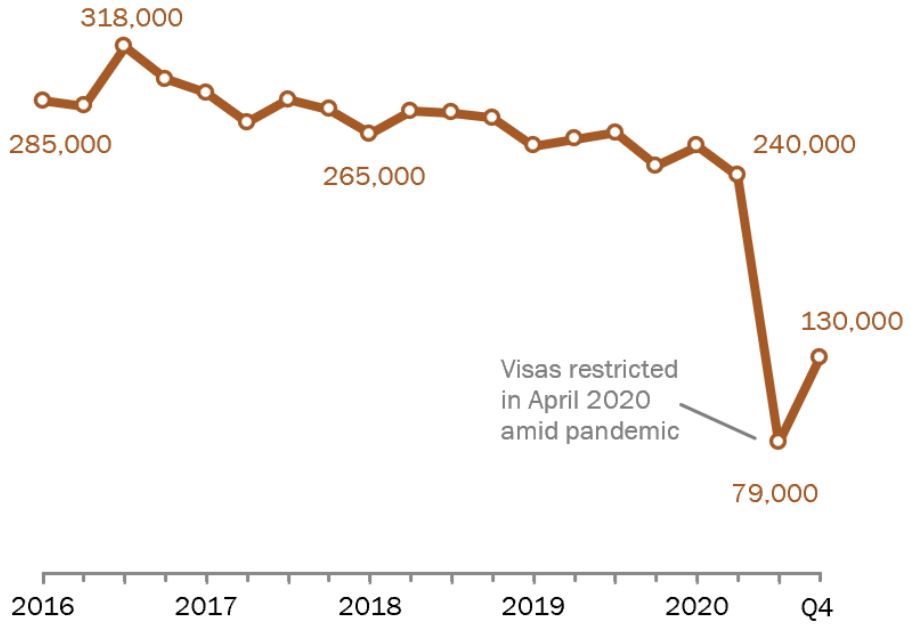
- Use of Emergency Medicaid does not render someone a public charge
  - Community perception

- Goes hand in hand with sponsorship

Stress of Deportation-Cancer Care Implications

The number of people who received a U.S. green card declined sharply in fiscal 2020 amid the pandemic

*New U.S. lawful permanent residents **per quarter**, fiscal 2016-2020*

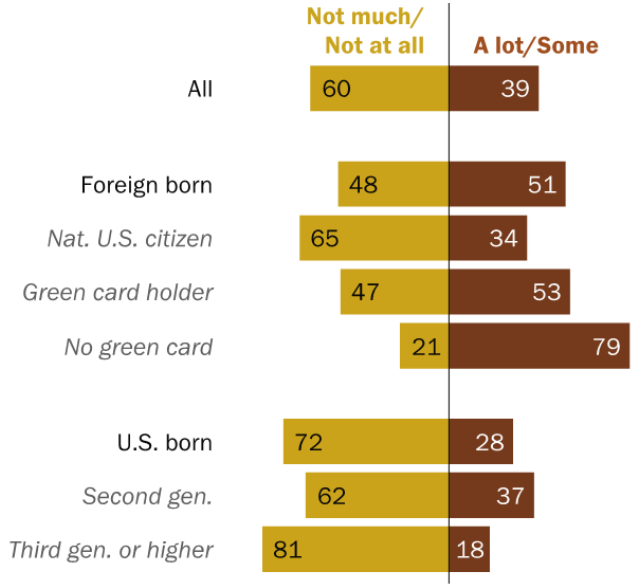


Note: Fiscal years end on Sept. 30 of years shown. Figures are rounded to nearest 1,000.
Source: U.S. Department of Homeland Security.

PEW RESEARCH CENTER

Latino deportation worries greatest among immigrants without U.S. citizenship or a green card

% of Latino adults who, regardless of their legal status, say they worry ____ that they, a family member or a close friend could be deported



Note: Share of respondents who did not offer an answer not shown. "Green card holder" refers to immigrants who say they are a U.S. legal permanent resident. "No green card" refers to immigrants who do not have U.S. citizenship and who say they are not a U.S. legal permanent resident.
Source: National Survey of Latinos conducted March 15-28, 2021.

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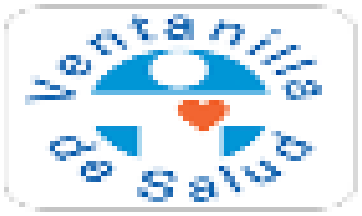
Communities at Risk…

Meeting the Community where the Community Lives, Works, and Plays

Growing Community Platforms to Address Immigrant SDOH Health Equity Barriers

Using Novel Windows of Opportunity to Reach Community Members

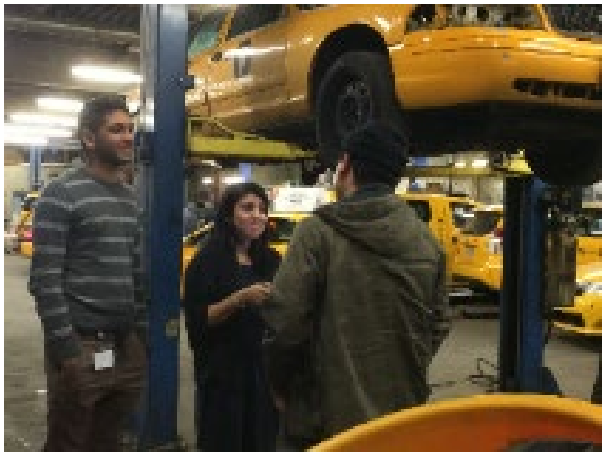
- Consulates



Consulate General of India, New York

- Occupational Settings

TaxiNETWORK



- Labor Unions

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Ventanilla de Salud
SANOS (SAlud y Nutrición para todOS) (Health and Nutrition for All) (Leng ,J)

➢82% of first-generation Mexican Americans are obese/overweight
)

Interventions

8 arm Fractional Factorial Experimental Design

4 obesity intervention components for 6 months (target N=632)

- Counseling at intake
- Thrice weekly texts
- Weekly Telephone supports calls
- Self monitoring tools

  - 45% clinically significant weight loss(highest 38 pounds)
  - Weekly telephone support associated with weight loss

Practice Impact

National expansion adopted by Mexican Consulate

Expansion to Mexico (including Mexican government and FIPOL partnerships)

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TAXI

NETWORK

loan Kettering
Cancer Center

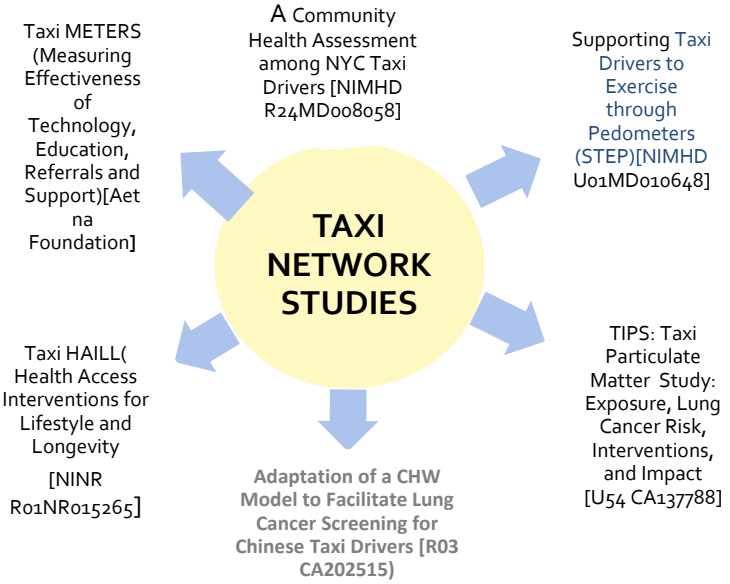
TAXI NETWORK

Taxi and App-based Drivers

- **Over 300,000 taxicab and app-based drivers in U.S.**
  - Over half drive and live in NYC and in our catchment area
  - 96% percent immigrants: 20% South Asian, 12% West African
  - Speak a variety of languages
  - Significant cancer risk
    - Environmental exposures and tobacco
    - Obesity, diet, sedentary lifestyle
    - Shift work and sleep disturbance
    - Stress
    - Poor health care access

TAXI NETWORK STUDIES

PARTNERS: South Asian Council for Social Services; University of Illinois at Chicago; Palo Alto Medical Foundation



Policy Impact

City Council Legislation for Taxi/FHV Driver Health and Financial Benefits Package

Port Authority NY and NJ Holding Lot Onsite Health Services

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Mobile Health Unit Overcomes Access Barriers

Mobile Health Unit (MHU)

- IHCD/MSKCC gifted a large van by the US-Mexico Border Health Commission, a long-time partner, to use for community outreach as a mobile health education unit
- Extension of IHCD's well-known work with underserved and immigrant populations—allowing it to serve hard-to-reach communities in the five boroughs, Westchester, and Long Island
- Services Offered
  - Screenings, referrals, and navigation into ad through healthcare and research
  - Risk reduction and screening
  - Awaiting NYS approval for HPV vaccination

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Prevalence of Financial Toxicity in Cancer Treatment

- More than half of US cancer survivors experience financial toxicity
  - 3% file for bankruptcy due to cancer
  - more common in low SES patients, URMs, women, young adults

- Even patients with health insurance are vulnerable
  - 66% of patients (n=190) in one study experienced financial toxicity
    - Only 1 did not have health insurance

- Financial toxicity more common in patients with advanced cancer
  - 1/3 use all/most of savings to pay for cancer

- Financial toxicity→ treatment nonadherence, poorer symptom control, QoL
  - Unmet essential needs

Banegas *Health Affairs* 2016
Tucker-Seeley *Psychooncology* 2015
Khera *Biol Blood Marrow Transplant* 2019

ICCAN: Integrated Cancer Care Access Network - Access Facilitation Program

- Case management services at 14 safety net and other cancer clinics in NY + MSK
- Access Facilitator/Navigator
  - Performs **essential needs** assessment
  - Develops with each patient a plan of action
  - Follows up in person or by phone with individuals to ensure each action point is addressed

ICCAN: Access Facilitation RCT (NCI U54)

- 2-arm: ICCAN vs U&C
- 12 months
- 2 safety net cancer clinics
- Preliminary Results (N=152)
  - ICCAN treatment completion significantly higher
    - 93% versus 78%

Food Insecurity (FI) and Cancer Care

- Cancer patients often have increased nutritional needs[1-6]
- Treatment-related costs (e.g. co-pays, Rx, travel) and income loss contribute[6-8]
  - FI goes hand in hand with financial toxicity of cancer treatment but precedes it for many
- FI → Poorer functional, emotional, and social well-being, higher depression risk[9-13]
- FI → Care delays, cost-related med non-adherence[1, 10, 14-18] → Poorer outcomes
  - McDougall, Anderson, Adler Jaffe et al. (2020) – New and persistent food insecurity strongly associated with forgoing, delaying, or altering cancer care

Vitally important to screen for and address food insecurity in cancer patients to potentially improve treatment adherence and decrease outcomes disparities[19]

And for surveillance/ to track outcomes of clinical and policy interventions

FOOD

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FOOD: Foundational Data

- Cancer patients in NYC safety net cancer clinics (N=404)
  - 56% food insecure:
    - Associated with treatment nonadherence
  - SNAP recipients as likely to be FI as those not receiving SNAP[37]
- Comprehensive Cancer Center (N=238)
  - 18%-30% food insecure
- Emergency food system does not address cancer patient needs(hours, location, foods- H&N cancers)
- FI is a window into other essential needs
  - Housing status, type associated with food security status

FOOD

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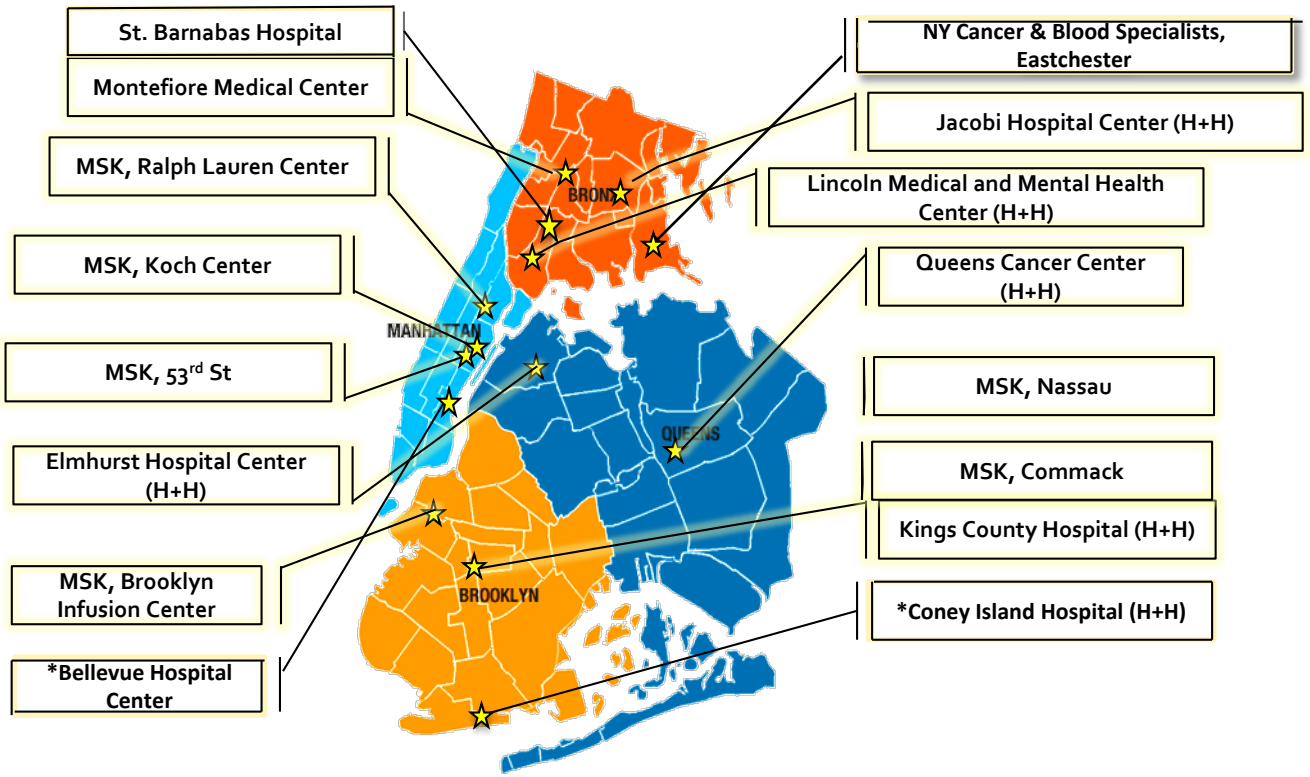
Medically Tailored FOOD Pantry Intervention Sites



*Pending sites

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Additional Interventions-RCT Study Arms

Arm 1

Cancer Clinic-Based Pantry Only

- Choice pantry once weekly, nutritionally tailored
- Food for five lunches and five dinners
- Approximately $35 per bag per week
- Culturally + Linguistically Tailored Nutrition Education

Arm 2

Voucher (debit cards) + Pantry

- Monthly $230 debit card (food and non-alcohol beverages)
- Given in-person at clinic
- Bring receipts every month
- Access to clinic-based pantry weekly
- Culturally + Linguistically Tailored Nutrition Education

Arm 3

Delivery + Pantry

- Weekly commercial grocery delivery: healthful products
- Delivery worth approximately $57 to $60 per week
- Chose food from master grocery list, recorded/tracked
- Access to clinic-based pantry weekly
- Culturally + Linguistically Tailored Nutrition Education

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FOOD (Food to Overcome Outcomes Disparities) RCT

- 6 months of participation
- Participants (N=117)
  - food insecure (USDA 18-item screener)
  - adult cancer patients at 4 NYC safety net cancer clinics
  - starting chemo, RT or both
  - English, Spanish, Mandarin speakers

FOOD

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Results: Treatment Completion and Appointment Adherence

- Voucher+pantry arm→ greatest treatment completion
  - 94% vs 82,5% delivery vs 77.5% pantry ($p<0.034$)*
- 62.3% of patients had full appointment attendance at chemotherapy and/or radiation therapy
  - distributed almost evenly across arms

Significant decrease (improvement) in mean USDA food security scores in all 3 arms

Gany, et al, Journal of Clinical Oncology, In press.

FOOD

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Results PHQ-9 and QoL

PHQ-9 (depression symptom) screener at baseline and follow-up (n=83)

- Across all arms, patients had fewer depression symptoms at follow-up (p=.000)***
    - Statistically significant
        - Pantry (p=.000)*** and Delivery + Pantry (p≤0.009)**

FACT-G (quality of life) assessments at baseline and follow-up (n=89)

- Scores improved in all 3 arms (p=.000)***
    - Statistically significant
        - Pantry (p≤.001)*** and Delivery + Pantry (p=.000)***

FOOD

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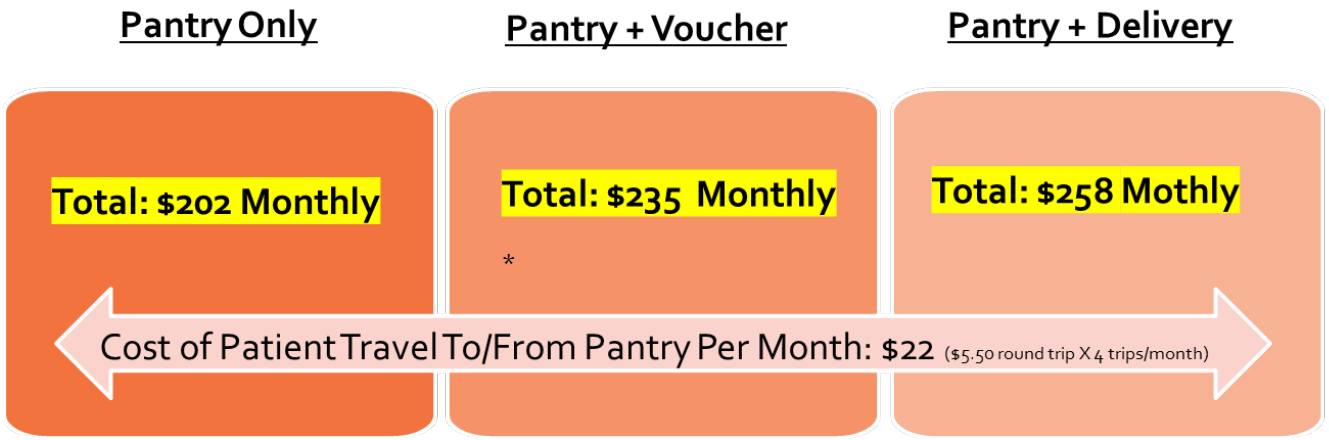
Voucher Arm Food Choices

- Patients spent the most on animal protein (22% of voucher money), fruits (15%), and vegetables (13%)

- 77% of funds spent on “healthy” food each month
  - Patients with limited English proficiency spent more on healthy foods than English-speaking patients (P=0.01)
  - Patients born outside the U.S. spent more on healthy foods than U.S.-born peers (P=0.001)

FOOD Costs


Pantry Only
Pantry + Voucher
Pantry + Delivery
Total: $202 Monthly
Total: $235 Monthly
*
Total: $258 Mothly
Cost of Patient Travel To/From Pantry Per Month: $22 ($5.50 round trip X 4 trips/month)

Housing, Food, and Cancer Treatment Nonadherence

Food and Housing Insecurity Additive Risk Factors for Nonadherence

- N=1098 (n=581 Latino, n=517 Black)
  - 42% of Latino patients (n=246) and 53% of Black patients (n=275) reported food unmet needs
  - 14% of Latino patients (n=80) and 17% of Black patients (n=90) reported housing unmet needs
  - Latino ($p<.05$)* and Black ($p<.001$)*** patients particularly at risk for missed appointments if they reported housing instability

Costas-Muniz R, et al. Association of socioeconomic and practical unmet needs with self-reported nonadherence to cancer treatment appointments in low-income Latino and Black cancer patients. Ethn Health. 2016;21(2):118-128.

COVID-19 Pivot

SDoH and technology interventions

- 63% of safety net patients experienced more difficulty accessing sufficient food, 40% increased levels of anxiety and stress, 37% loss of household income, 29% housing insecurity
- 25% of patients had pandemic-related difficulty navigating their cancer care
- 50% to 75% of our safety net cancer cohort and 25% of our MSK low SES cohort require navigation and/or infrastructure support for video telehealth services
- 10% require fairly extensive navigation to utilize even just telephone healthcare services

Interventions

- Virtual and in-person intensive social determinants navigation (multilingual) engaging our partner network
- Food pantry pivot to home deliveries → vouchers
  - 500 patients per month
- STREAMING telehealth navigation and infrastructure provision→AcT (Access to Telehealth)
  - 250 patients device and internet provision

Practice and Policy Implications

- Telehealth readiness screening
- Community-based telehealth infrastructure development

Thank You to our Partners

Community




hispanicfederation



Mexican Coalition



South Asian Council for Social Services



South Asian Youth Action




CHINESE AMERICAN MEDICAL SOCIETY











BRCA Founder OutReach (BFOR) Study

Union Fouta

Senegalese Association

Independent Driver's Guild



AJ Yellow Taxi Tutors


Shri Guru Ravi Dass Sabha of New York, Inc.


Government/National


Mexican Consulate, Ventanillas de Salud

American Society of Clinical Pathology

C5 Coalition

Clinical Sites

Academic

NYU NIEHS Center of Excellence

LaGuardia Community College

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Thank You to the Immigrant Health and Cancer Disparities Team

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AVON Foundation

The Commonwealth Fund

The Altman Foundation

Coalition for Asian American Children and Families

Stemmler Medical Education Research Fund, National Board of Medical Examiners

MSKCC Center for Research of HPV-Related Cancers

Alliance for Clinical Trials in Oncology Cancer Care Delivery Research Pilot Project Award

MSK Cancer Survivorship Initiative/Chanel Institutional Grant

American Cancer Society Mentored Research Scholar Grant (MRSGT-11-002-01-CPHPS)

Goldstein Foundation

Center for Disease Control and Prevention, Prevention and Public Health Funds

Aetna Foundation

Lalor Foundation

MSKCC Osborne Innovation Fund

MSKCC PSRP Developmental Funds

Bristol Myers Squibb Foundation

Mexican Consulate

Prevent Cancer Foundation

Stavros Niarchos Foundation

Merck Foundation

Mother Cabrini Foundation

Memorial Sloan Kettering Cancer Center

Memorial Sloan Kettering Cancer Center

Thank you!