Unmet health needs among homeless and vulnerably housed adults in three Canadian cities

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Background: Approximately 150,000 Canadians and up to 3.5 million Americans experience homelessness each year. Homeless individuals experience a high burden of health problems, yet face significant barriers in accessing health care. Less is known about unmet needs for care among vulnerably housed persons – those living in poor-quality or temporary housing, and at high risk of becoming homeless. The objectives of the study presented here were to examine the factors associated with unmet needs for health care in a community-based sample of homeless and vulnerably housed individuals within a universal health insurance system.

Methods: 1,191 single adults were recruited at shelters, meal programs, community health centers, drop-in centers, rooming houses, and single room occupancy hotels in Vancouver, Toronto, and Ottawa, Canada, throughout 2009. Baseline interviews elicited demographic characteristics, physical and mental health statuses, chronic health conditions, health-related quality of life, health care providers and utilization, perceived barriers to health care, and unmet needs for health care. Multivariate logistic regression was used to identify factors associated with self-reported unmet needs for health care during the past twelve months.

Results: Of the 1,181 participants included in the analysis, 445 (37%) reported unmet needs for health care. There were no significant differences between homeless and vulnerably housed participants, therefore the two groups were analyzed together. In adjusted multivariate analyses, factors associated with a greater likelihood of reporting unmet needs were employment in the past 12 months (AOR=1.40, 95% CI=1.03-1.91) and having ≥3 chronic health conditions (AOR=2.17, 95% CI=1.24-3.79). Having higher health-related quality of life (AOR=0.21, 95% CI=0.09-0.53), improved mental (AOR=0.97, 95% CI=0.96-0.98) or physical health (AOR=0.98, 95% CI=0.96-0.99), and having a primary care provider (AOR=0.63, 95% CI=0.46-0.85) decreased the likelihood of reporting unmet needs. An analysis of participants reporting one or more previous mental health diagnoses identifies significantly increased likelihood of unmet need for health care in participants with mood disorders (OR=1.73 95% CI=1.36, 2.20) and anxiety disorders (OR=1.96 95% CI=1.48, 2.57).

Conclusions: Homeless and vulnerably housed adults have a similar likelihood of experiencing unmet health care needs, highlighting that the provision of insecure, poor-quality housing does not improve unmet needs for health care. Despite Canada’s universal health insurance system, these populations face sizeable barriers to meeting health care needs and are burdened by a high prevalence of unmet needs for care. Participants with multiple chronic health conditions, worse health status, or no primary care provider were more likely to report unmet needs for health care. It is therefore critical to develop policies and programs that are easily accessible and appropriate for vulnerable individuals in order to meet their unique health care needs. Future studies should identify the types of health care
Racial disparities in HPV vaccination.


**Background:** HPV vaccination is a safe and effective method for primary prevention of cervical cancer yet US rates of HPV vaccination remain suboptimal. Given that cervical cancer is more common in African-American and Hispanic women than in white women, it is important to determine whether there are racial/ethnic disparities in the utilization of the HPV vaccine and to understand potentially modifiable factors contributing to observed disparities. The objective of this study was to examine the independent effect of race/ethnicity on HPV vaccine initiation in adolescents and young women in the US and to determine whether access to healthcare influences this relationship.

**Methods:** We used nationally representative data collected by the National Survey of Family Growth from 2007-2010 to compare HPV vaccine initiation among white, African-American, and Hispanic females aged 15-24. We conducted a multivariable regression analysis to determine the independent effect of race/ethnicity on HPV vaccine initiation after controlling for socio-demographic variables found to be significant in bivariate analysis. We then examined the role of healthcare access as a confounder for the relationship between race/ethnicity and HPV vaccination by adding several access-related variables into the model. These included insurance status during the last 12 months, place of residence (urban, suburban, or rural), and receipt of at least one reproductive health service within the last 12 months. Given that existing national studies report prevalence rates for either younger or older vaccine-eligible women, we also conducted age-stratified analyses (ages 15-18 and 19-24 years) to enable comparisons with existing data. STATA survey procedures were used for all analyses to account for the NSFG’s complex survey sampling design.

**Results:** The sample consisted of 3,073 women: 62.7% were white, 19.7% Hispanic, and 17.6% African American. Overall, only 24.0% of girls and women reported HPV vaccination. There were significant racial/ethnic differences in rates of vaccination with 28.7% of white females reporting vaccination compared to 15.0% of African-American women and 16.9% of Hispanic women (p<0.001). After adjusting for age, religion, birth country, marital status, parent education, household income, and number of lifetime male sexual partners, African-Americans and Hispanics remained less likely to have been vaccinated against HPV (adjusted OR: 0.46; 95% CI: 0.33-0.66 and adjusted OR: 0.56; 95% CI: 0.38-0.83, respectively). Adding healthcare access measures did not substantially change the odds of vaccination for African-Americans or Hispanics (adjusted OR: 0.43; 95% CI: 0.31-0.59 and adjusted OR: 0.61; 95% CI: 0.41-0.89, respectively). The age-stratified analyses revealed that this disparity affected African-American females in both age groups (ages 15-18 and 19-24) and Hispanic adolescent girls (ages 15-18).

**Conclusions:** There are significant racial/ethnic disparities in HPV vaccination that do not appear to be explained by access to healthcare. Research is needed to further elucidate the reasons for under-vaccination among girls and young women of color and identify ways in which providers and healthcare systems may improve vaccine uptake for these vulnerable populations.
After the Fact: Educating Women Incarcerated in Jail on the use of Medical Therapies to Prevent HIV Acquisition Following a Risky Exposure

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Background: Women incarcerated in jail face increased risk of HIV infection because they over represent members of communities at risk. Antiretroviral therapy following an HIV exposure--non-occupational post-exposure prophylaxis (nPEP)--has been endorsed by federal guidelines as an effective HIV prevention strategy since 1997. However, there is little information regarding nPEP awareness or its use among women leaving jail. This study assessed baseline awareness and knowledge regarding nPEP among women incarcerated in a local jail and evaluated the effectiveness of a brief educational intervention in increasing nPEP awareness and knowledge.

Methods: A 15-minute lesson was developed to teach principles of nPEP to detained women at the San Francisco jail. Participants were recruited from September 2012 to January 2013, and the intervention was delivered in small groups. Prior to the intervention, participants completed a survey (T1), reflecting demographics, HIV risk factors and nPEP awareness, knowledge and attitudes. The nPEP section was repeated immediately after the program (T2) and at one week (T3). Knowledge scores were calculated and assessed in 2 domains: risky behaviors and nPEP logistics (initiation timeframe, duration of use, side effects). Baseline knowledge scores and awareness were compared to answers at T2 and T3 using paired t-tests. Linear regression analysis was used to identify predictors of baseline awareness, baseline knowledge and improvement in knowledge scores.

Results: Of 62 women enrolled, 53 completed T1, 48 completed both T1 and T2, and 34 completed both T2 and T3. 43% identified themselves as black or African American, 21% as white, 13% as Hispanic, and 23% as other. The mean age was 34 years, and mean total time incarcerated was 5.8 years. 32% of the women had less than a high school education. 83% of women were tested for HIV in the past year. 82% reported sex-related HIV exposures in the past year, yet only 38% perceived themselves at risk. Similarly, 28% reported drug-related HIV exposures, while only 10% perceived themselves as at risk.

Baseline awareness of nPEP’s existence was 55%. Increased education was associated with improved risk knowledge and overall knowledge ($\beta=0.252, p=0.015$ and $\beta=0.291, p=0.011$). Additionally, while knowledge scores increased in both domains after the intervention (see Table 1), the increase in nPEP logistics knowledge was greater than the increase in behavioral knowledge ($p<0.001$). The percent of participants who would “definitely seek out nPEP after a risky exposure” was high at baseline (77%), and remained high at T2 and T3 (83% and 95%, respectively), despite possible side effects and the need to take medications for 4 weeks.

Conclusions: Despite the high rates of recent HIV testing and engagement in high-risk behaviors, awareness of individuals’ own risk and the existence of nPEP as an HIV prevention strategy was low among women in this study. A 15-minute educational intervention is an effective means of delivering HIV prevention information to women in jail, but may be more useful for teaching basic information about taking nPEP than changing knowledge about risk behaviors.
The impact of eliminating medication copayments on disparities in cardiovascular care

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Background: Racial and ethnic disparities in cardiovascular care have been widely documented. Reducing copayments for highly effective medications, such as those prescribed after myocardial infarction (MI), has been shown to improve medication adherence and reduce rates of major vascular events; however, the impact of such programs on health disparities is unknown. We used data from the Post-Myocardial Infarction Free Rx Event and Economic Evaluation (MI FREEE) trial to evaluate whether pharmacy benefit design changes had differential effects based on race/ethnicity. In addition, we assessed the accuracy of indirect methods of race/ethnicity identification by comparing results obtained using RAND’s geocoding and surname techniques with those based upon self-reported race/ethnicity information.

Methods: The effect of full prescription coverage as compared to usual prescription coverage for all statins, beta-blockers, angiotensin converting enzyme inhibitors and angiotensin receptor blockers prescribed after MI was examined in 2,387 patients enrolled in the MI FREEE trial for whom both self-reported and indirect race/ethnicity information was available. Cox proportional hazards models and generalized estimating equations with interaction testing were used to examine the trial’s impact on the trial’s primary outcome (time to first major vascular event or revascularization) and total health spending for white and non-white subjects. We classified patients as being white using indirect methods if their predicted probability of white race was ≥ 55%. We also used each patient’s predicted probability of white race to create 100 imputed race variables and then compared the intervention’s impact for white and non-white patients.

Results: Providing full drug coverage significantly reduced rates of the primary outcome among patients who self-identified as being non-white (hazard ratio [HR] 0.62, 95% confidence interval [CI] 0.41-0.94, p=0.03) but not for those of white race/ethnicity (HR 0.96, 95% CI 0.77-1.20, p=0.74; p-value for interaction = 0.05). Similarly, using self-identified race/ethnicity, the intervention reduced total health care spending for non-whites (relative spending 0.28, 95% CI 0.14-0.56, p<0.05) but not among white subjects (relative spending 1.26, 95% CI 0.57-2.79, p=0.56; interaction p-value <0.001). In contrast, when race/ethnicity was assessed using indirect methods, the impact of full coverage did not differ for white and non-white patients (interaction p-value 0.85-0.93).

Conclusions: Eliminating copayments for post-MI secondary prevention drugs was significantly more effective at reducing rates of major vascular events or revascularization, as well as total health care spending, among patients who self-identified that they were not white. These results suggest that eliminating cost-sharing for evidence-based post-MI medications may help reduce cardiovascular disparities. In addition, we obtained quantitatively and qualitatively different results using indirect race/ethnicity identification methods, suggesting that these techniques may not accurately capture race and ethnicity.
The effect of Medicaid status on weight loss outcomes after gastric bypass surgery.

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Background: Severe obesity (BMI > 40 kg/m2 or >35 kg/m2 with one or more co-morbid conditions) disproportionately affects individuals in the lowest socioeconomic status group, and these individuals are more likely to be enrolled in state Medicaid programs. Bariatric surgery, including Roux-en-Y gastric bypass (RYGB), achieves the greatest long-term weight loss for severe obesity and is increasingly utilized. Patients with severe obesity enrolled in Medicaid are less likely to undergo bariatric surgery, and not all state Medicaid programs provide coverage for bariatric surgery. The purpose of this study was to compare weight loss outcomes after RYGB surgery between patients with Medicaid and other insurance.

Methods: This was a retrospective cohort study of 318 consecutive patients (n=113 for Medicaid; n=130 for other government insurance; n=75 for commercial insurance) who underwent RYGB surgery at a single academic center between 2004 and 2011 and who had at least 6 months of follow-up after RYGB. Data on age, race, gender, pre-surgery weight/BMI, comorbidities, and insurance provider were collected. Percent weight loss (PWL) and absolute weight loss (AWL, in kg) were recorded at 6 months. Linear regression analysis was used to compare PWL and AWL at 6 months between patients with Medicaid, other government insurance, and commercial insurance.

Results: Patients with other government insurance were less heavy and had a lower BMI compared to both the Medicaid and commercial insurance patients (both p<0.001) prior to RYBG. Medicaid patients (mean age 35.8 y) were substantially younger (overall p<0.0001) compared to other government (mean age 44.4 y) and commercial insurance patients (mean age 42.9 y). The proportion of female patients was higher (p=0.012) in the Medicaid group (94.7%) compared to other government insurance (84.6%) and commercial insurance patients (81.3%). There was no difference in the racial distribution. In unadjusted analyses, Medicaid patients had significantly greater PWL by 1.91 percentage points (p=0.03) compared to commercial insurance patients. Patients with other government insurance had a borderline significant (p=0.061) increase in PWL by 1.61 percentage points compared to commercial insurance patients. There was no significant difference in absolute weight loss between the 3 groups. However, increasing age was associated with decreased PWL (p=0.002) and AWL (p<0.001) across all patients and was a confounder of the relationship between PWL and insurance provider. In regression analysis adjusted for age, Medicaid patients had a non-significant increase in PWL (p=0.163) compared to patients with commercial insurance. Interestingly, PWL for those with other government insurance was now significantly increased compared to the commercial insurance patients (p=0.039). When adjusted for age, there were no differences in AWL. Hospital length of stay was similar between the three groups.

Conclusions: Our data support more recent data that Medicaid patients have at least equal weight loss following RYGB for severe obesity. Although patients with Medicaid are less likely to undergo RYGB surgery, it is the most effective treatment for severe obesity. Given the younger cohort of patients in a Medicaid population, these patients may derive even greater long-term benefit than other patients. This should be considered as many states expand Medicaid and make policy decisions regarding obesity treatment.
Access to Subspecialty Care for Patients with Mobility Impairment

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Background: The Americans with Disabilities Act (ADA) states that all medical practitioners are required to provide “full and equal access to their health care services and facilities,” yet adults who use wheelchairs have difficulty accessing physicians and receive less preventive care than their able-bodied counterparts. We aimed to describe access to medical and surgical subspecialists for patients with mobility impairment.

Methods: Using a standardized script, we called subspecialty (endocrinology, gynecology, orthopedic surgery, rheumatology, urology, ophthalmology, otolaryngology, psychiatry) practices in four metropolitan areas in the United States and attempted to make an appointment for a fictional patient who used a wheelchair and was unable to transfer from chair to exam table. If a practice reported that they were able to make an appointment for the patient, the investigator would then probe to clarify that both the building and office were accessible and to determine the method by which the practice planned to transfer the patient from the wheelchair to the exam table. If the practice was unable to accommodate the patient, the investigator responded with the question, “Can you please explain why you are unable to accommodate this patient?” We calculated summary statistics and conducted a qualitative analysis of the responses.

Results: Of 256 practices, 56 (22%) reported they could not accommodate our fictional patient. Only nine of these reported that the building was inaccessible. The remaining 47 reported that they were unable to transfer a patient from a wheelchair to an exam table. Reasons for the inability to transfer the patient included a lack of staff who could perform the transfer (37 practices), a concern about liability (five practices), or that the “patient was too heavy” (five practices). Inaccessibility varied by subspecialty: only 6% of psychiatry practices were inaccessible, while gynecology was the subspecialty with the highest rate (44%) of inaccessible practices. The other subspecialties had proportions of inaccessible practices ranging from 13-28%. Of 200 accessible practices, 67 (33%) reported they had equipment that could adjust to the patient while sitting in the wheelchair (e.g., otolaryngology, ophthalmology) or, in the case of psychiatry, that they did not need to move the patient for an exam. 103 practices (51%) reported they planned to “manually transfer” the patient from her wheelchair to a non-accessible high table without the use of a lift. Only 22 practices (11%) reported the use of accessible tables or use of a lift for transfer.

Conclusions: More than 20 years after the passage of the ADA, many subspecialty practices were unable to accommodate a patient with mobility impairment. This was rarely due to building inaccessibility. More frequently, practices were inaccessible because they were unable to transfer the patient to perform an exam. A minority of accessible practices possessed equipment that would facilitate the safe transfer (from chair to table) of our fictional patient. Instead, a majority of accessible practices reported transfer methods that have been deemed to be unsafe by disability experts. These results provide one possible explanation for the health care disparities observed in this population and identify the need for better awareness among physicians about the requirements of the ADA and the standards of care for patients with mobility impairment.