Harold Amos Medical Faculty Development Program

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Institution: University of California, San Francisco

Mentor(s): Jae Sevelius, PhD

College: Rhodes College

Medical/Dental/Nursing PhD School: Harvard Medical School

Residency: UCSF Pediatrics

Fellowship: UCSF Adolescent and Young Adult Medicine

Title of Project: Examining Mental Health and Gender Affirmation for Black and Latinx Transgender Youth

Purpose: To quantitatively evaluate mental health symptoms and various forms of gender affirmation for Black and Latinx transgender youth (BLTY) and compare them with peers including White transgender youth and Black and Latinx cisgender youth using large school-based and clinical datasets.

Methods: For the **school-based dataset**, secondary analyses were conducted using data from the California Healthy Kids Survey with a weighted sample representative of the California’s secondary school population. The analytic sample (n=19,780) included 9th and 11th grade BLTY, White transgender youth, and Black and Latinx cisgender youth. Outcomes include past-year depressive symptoms and past-year suicidality. Psychosocial risk factors include gender-based, sexuality-based, and race-based harassment. For the **clinic-based dataset**, secondary analyses were conducted using baseline data from Trans Youth Care, a 4-site observational study monitoring medical and psychosocial outcomes for youth initiating gender-affirming hormones. The analytic sample (n=288) included BLTY and White transgender youth. Outcomes include depression, suicidality, and anxiety. Forms of gender affirmation included living full time as gender identity, history of pubertal suppression, parental acceptance, and parental non-affirmation. For analyses of each dataset, cohorts were compared using bivariate analyses and multivariable logistic regression. Moreover, for each dataset, among BLTY, associations between outcomes and psychosocial risk factors/gender affirmation were evaluated using logistic regression analyses.

Results: For the **school-based dataset,** among BLTY, the estimated prevalence of depressive symptoms and suicidality were 50% (95% CI, 44-57) and 46% (95% CI, 39-52), respectively. Logistic regression models adjusted for demographics indicated that compared to White transgender youth, BLTY had similar odds of depressive symptoms, suicidality, and all forms of harassment. With similar analyses, compared to Black and Latinx cisgender youth, BLTY youth had higher odds of depressive symptoms, suicidality, and all forms of harassment. For BLTY, all forms of harassment were associated with increased odds of depressive symptoms and suicidality. For the **clinic-based dataset, s**imilar proportions in the BLTY and White transgender youth cohorts reported depression and anxiety; BLTY had lower rates of lifetime suicidality (55%) compared to White transgender youth (73%; p=0.003). Both cohorts had had similar Perceived Parental Acceptance scores; BLTY had higher Perceived Parental Non-Affirmation scores. Similar proportions were living fulltime as their affirmed gender and had a history of pubertal suppression. For BLTY, living fulltime as their affirmed gender decreased odds for depression; parental non-affirmation increased odds of depression and anxiety; and no history of pubertal suppression increased odds for depression, suicidality, and anxiety.

Conclusions: BLTY have high rates of mental health symptoms and are relatively vulnerable when compared with their peers. Harassment and various forms of gender affirmation should be targeted to support their mental health. Qualitative interviews with BLTY and their parents could elucidate culture-based factors and intersectional stigma that impact the mental health and gender affirmation of this population.

**Harold Amos Medical Faculty Development Program**

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**Fellowship:** N/A

**Title of Project:** Understanding Diagnostic Failures in Dentistry: A Three-pronged Approach

**Abstract:**

**Project Summary:** In the United States (US), an estimated 5% of adults experience a diagnostic error in the outpatient setting. In a literature review of 182 case reports, one-quarter (23%) of reported dental adverse events (AEs) were associated with mis-, missed diagnoses, or delayed diagnoses. Dentists need to be able to accurately assess their current levels of diagnostic performance, understand the factors that contribute to dental diagnostic failures, and develop innovative strategies to improve the quality of diagnoses. This proposal seeks to expand the depth and breadth of knowledge about factors that underlie diagnostic failures within the dental care setting. Specifically, we will use a mixed-methods approach to 1) Develop a Repository (Collection) of Dental Diagnostic Failures, 2) Identify Common Contributory Factors to Dental Diagnostic Failures from the Providers’ Perspective, and 3) Evaluate Patient Experiences of Dental Diagnostic Failures and Their Sequelae.

**Progress Report:**

**Aim 1:** We conducted a scoping review of the biomedical literature. Our initial search yielded 2693 publications (Final search date: May 5, 2021). After the removal of duplicates, we had 1857 publications. We are currently screening the titles and abstracts to identify all potentially relevant publications. The next phase of the project will be to conduct a full text screening, data extraction, and a qualitative synthesis.

**Aim 2:** A 20-item survey was distributed to a national sample of dentists (n=40,000) over a five-week study period (May 24-June 25, 2021). We received 334 completed responses and 293 partial responses (627 total responses; 1.6% response rate). Preliminary descriptive statistics revealed that majority of participants were aged 65-74 years (12.9%), Male (68.3%), Non-Hispanic White (74.3%), general dentists (69.5%), located in California (15%), New York (7.8%), and Texas (6.6%), and had >25 years in practice (50.3%). About two-thirds practiced in a solo/small private practice (2-9 dentists) and saw an average of 40+ patients per week. 45.5% had not received any formal training on diagnostic errors in dentistry. The most error-prone dental diagnoses were acute and chronic sinusitis, diseases of pulp, periapical tissues, and other disorders of teeth and supporting structures, and head and neck cancers/ neoplasms. Failures/Delays/Errors with ordering, performing, processing, interpreting, or following up on needed tests, radiographs, or pathology results (33.5%) was the most frequent failure point within the diagnostic process. The most frequently reported contributory factors included: Incomplete history taking or examination (39.1%), Poor communication (34.8%), and Overconfidence about one’s own diagnostic ability (35.7%). While most dentists reported observing diagnostic errors made by other dentists every week, they reported making diagnostic errors themselves only quarterly. 5.5% said they had never made a diagnostic error. Increased training on diagnostic reasoning (21.9%) and improved access to or availability of specialists (8.2%) were the most recommended interventions.

**Aim 3:** We have developed the content for the Facebook Recruitment Ad, a patient screening survey in Qualtrics, and a telephone interview guide. We will begin participant recruitment in November 2021.

Harold Amos Medical Faculty Development Program

Name: Amanda S. Bruegl

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Residency: University of Wisconsin

Fellowship: The University of Texas, MD Anderson Cancer Center

Title of Project: Prevalence and Distribution of high-risk HPV subtype among American Indian/Alaska Native Women living in the Pacific Northwest: A Cross-Sectional study of women living in urban and reservation-based settings

Background: Cervical cancer and its precursor lesions are due to the sexually transmitted infection human papillomavirus (HPV), and its persistence is critical for cancer development. Cervical cancer is a preventable disease through pap smear screening and HPV vaccination. Substantial disparities in both cervical cancer incidence and mortality across racial and ethnic groups persist. Our data from the Pacific Northwest show that American Indian/Alaska Native (AI/AN) women have persistently had a greater incidence and mortality rate compared to Non-Hispanic White (NHW) women.

Objective: Eliminate cervical cancer disparities faced by AI/AN women

Research Question: Is research being done in the AI/AN population?

Methods: A systematic scoping review will be performed to evaluate published literature from 1990-2020 that address cervical cancer, HPV, and cervical dysplasia in AI/AN women.

Results: Our search yielded 515 citations, 146 articles met inclusion criteria and were included in our review. The median impact factor for published articles was 2.14, (0-292). Descriptive studies represented 58.9% of all published articles followed by observational (23.2%) and interventional (11.6%). Cervical cancer screening/dysplasia was the most commonly published topic (50.6%), followed by incidence/mortality studies (23.9%), HPV (22.6%), and invasive cancer (2.7%). The Indian Health Service (IHS) regions most heavily represented were the Alaska Area and Great Plains Area. Of the 110 articles in which funding source was documented, 83.6% were federally funded, 11.8% were funded by a non-profit agency, and the remaining 4.6% were a combination of federal, non-profit, and/or private industry.

Research Question: Are AI/AN women in the PNW utilizing prevention tools (i.e. HPV vaccination and pap smear screening) to reduce their risk of cervical cancer?

Methods: Clinical encounter data between January 2010 and July 2020 from Indian Health Service (IHS), Tribal, and Urban (I/T/U) clinics in the Pacific Northwest (PNW), obtained from the IHS National Data Warehouse, were prepared and analyzed. Clinical encounters where pap smears were performed were identified using ICD-9 and ICD-10 clinical procedure codes, CPT codes, and laboratory free text notes. Cervical cancer screening rates identified patients with pap smears documented in the previous 3 years among all female clinical patients between 25 and 64 years of age with at least one clinical visit within the study period, or patients between 30 and 64 years of age with a pap screen and an HPV DNA test in the previous 5 years.

Results: In the PNW, we identified a total of 34,278 patients eligible for cervical cancer screening within the 10-year period. Aggregated up-to-date pap smear rate was 63.5% for the three-state region. Between the two time periods assessed (January 2010 – December 2014 and January 2015 – July 2020), cervical cancer screening rates increased slightly in all three states of interest with the greatest increase see in Washington state and least in Idaho. Despite these modest increases, cervical cancer screening rates remain below both the 2018 calculated national screening average of 80.5% and the Healthy People 2030 target of 84.3%.

Research Question: What barriers exist for patients receiving care at I/T/U clinics who receive abnormal cervical cancer screening results?

Methods: A survey is being developed and will be distributed at the Portland Area Indian Health Service Region medical director’s cancer update in Spring 2022 to determine contributors preventing follow-up for abnormal cervical cancer screening.

Research Question: Can telehealth and HPV self-collection be used to increase the rate of cervical cancer screening in underserved populations?

Specific Aim: Compare the efficacy and patient experience of telehealth-based, self-collected cervical cancer screening to mail-based, self-collected cervical cancer screening

Primary Endpoint: Patient preference for HPV self-collection compared to provider collection in the office

Methods: This is a prospective, randomized study of women ages 25 and older, stratified by menopausal status (defined as 12 months or greater without menses or time at which both ovaries have been surgically removed), who are eligible for cervical cancer screening. After consent, women who agree to participate and meet the entry criteria will be randomly assigned to one of the two following treatments arms: the control arm will be the mail based instructions and the intervention arm will have a telehealth visit to provide enhanced instructions.

Results: IRB is under review and we anticipate accruing patients within 4-6 weeks.

Concluding Remarks: Results from these studies will identify opportunities for interventions to eliminate cervical cancer disparities. Our preliminary data show that research is limited in the AI/AN population and that participation in pap smear screening consistently lags behind the U.S. population and national screening goals. Our survey will help identify barriers providers and women face once cervical cancer screening is abnormal and identify interventions to reduce barriers to follow-up. Finally, our pilot study will evaluate the role of telehealth and the HPV self-collection process. Results from this study can be used to expand HPV self-collection and eliminate geographic disparities with telehealth.