

HAWAI'I JOURNAL WATCH

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Highlights of recent research from the University of Hawai'i and the Hawai'i State Department of Health

SUBSTANCE ABUSE TREATMENT PROGRAMS FOR NATIVE HAWAIIANS AND OTHER PACIFIC ISLANDERS

Among individuals in substance abuse treatment programs, Native Hawaiians and Other Pacific Islanders (NHOPIs) are less likely than Asians or whites to complete treatment. Researchers led by Meripa T. Godinet PhD, with the Myron B. Thompson School of Social Work, gathered information on nearly 130 000 treatment cases nationally from 2016. Findings indicated NHOPIs in outpatient non-intensive programs were more likely to complete treatment than those in out-patient intensive or in-patient settings, resonating with the idea of family/community support as essential for NHOPIs. In contrast, Asians and whites in outpatient non-intensive treatment settings were less likely to complete treatment than Asians and whites in the other two settings. The study emphasized the importance of disaggregating data from Asians and NHOPIs to better understand the factors affecting program completion rates. The paper (PubMed ID: [31846599](#)) is published in *Substance Use & Misuse*.

SHARPER GENE-ANALYSIS TECHNIQUES ARE NEEDED TO STUDY TB CLUSTERS IN HAWAI'I

The Beijing and Manila families of *Mycobacterium tuberculosis* cause over two-thirds of TB cases in Hawai'i, but techniques commonly used to genetically analyze TB clusters are inadequate for studying them. Researchers including co-author E. Desmond PhD, with the Hawai'i DOH, used a newer tool called next-generation whole-genome sequencing (WGS) along with single-nucleotide polymorphism identification to analyze 19 apparent clusters in Hawai'i from 2003 to 2017. The analysis excluded transmission events in seven putative clusters, confirmed transmission in eight, and identified both transmission-linked and non-linked bacteria in four. The findings show WGS is a powerful tool for TB investigations in Hawai'i and the Pacific. The paper (PubMed ID: [30509214](#)) is published in *BMC Infectious Diseases*.

NURSING PARTNERSHIP BENEFITS FACULTY, CLINICAL STAFF, AND PATIENTS

A 10-year partnership between the UHM School of Nursing and Dental Hygiene (SONDH) and The Queen's Health Systems (QHS) has increased the research capacity of both organizations as a result of their deep strategic and tactical commitment to building the partnership. Researchers including senior author Mary Boland DrPH, RN, of the SONDH, investigated factors contributing to the success of the partnership and its outcomes. The authors reported the partnership has increased SONDH faculty opportunities to conduct clinical research, supported the QHS nurses in expanding their practice, and improved patient care. Twenty-eight evidence-based projects have been completed as a result of the partnership,

and 17 resulted in peer-reviewed publications. The paper (PubMed ID: [31857058](#)) is published in the *Journal of Professional Nursing*.

PHYSICAL ACTIVITY LEVELS AND E-CIGARETTE USE LINKED

Hawai'i college students who engage in higher levels of physical activity may be more likely to later use e-cigarettes. Researchers led by Pallav Pokhrel PhD, MPH, of the UH Cancer Center, looked at self-reported physical activity data and past-30-day cigarette smoking and e-cigarette use among 2401 college students on O'ahu. Higher levels of moderate and vigorous physical activity were linked with lower cigarette and e-cigarette use at a given time. However, higher physical activity at baseline was associated with increased e-cigarette use six months later. The findings suggest the relationship between cigarettes and physical activity differs from that between e-cigarette use and physical activity, the researchers concluded. The study (PubMed ID: [31193540](#)) is published in the *American Journal of Preventive Medicine*.

PRE-EXPOSURE PROPHYLAXIS MEDICATIONS MAY PROTECT THE BRAIN

Pre-exposure prophylaxis (PrEP) medications, which can prevent human immunodeficiency virus (HIV) infection, may also protect the brain against the inflammation that can occur with HIV infection. Researchers including Joanna Kettlewell BS, of the John A. Burns School of Medicine, looked at an *in vitro* model of the blood-brain barrier populated with blood cells from HIV-negative participants who had recently initiated PrEP. Results showed that both the traditional PrEP medications (emtricitabine and tenofovir) as well as the PrEP medications plus an additional receptor inhibitor (Maraviroc) reduced the percentage of monocytes that were able to cross the blood-brain barrier, suggesting that PrEP protects the brain against inflammation. The paper (PubMed ID: [31828733](#)) is published as a letter to the editor in *Journal of Neuroimmune Pharmacology*.

ENTERIC VIRUSES AND WATER QUALITY MONITORING

Water quality monitoring usually involves testing for fecal coliform bacteria species, but not enteric viruses, which can also cause infections. Researchers including Yuanan Lu PhD, of the Office of Public Health Studies, developed a testing method and used it to evaluate water from Poyang Lake, China's largest freshwater lake, for three types of bacteria and several enteric viruses using two viral detection protocols. The detection of enteric viruses showed no significant correlation with bacteria indicators, suggesting enteric viruses can serve as an additional water quality indicator. In addition, the virus detection protocol developed at the Tianjin Institute of Health and Environmental Medicine was lengthy, but produced measurements of virus concentrations, whereas the method Lu's team developed saved time but produced only qualitative results. This has relevance to Hawai'i given the importance of water quality to the state. The paper (PubMed ID: [31547457](#)) is published in the *International Journal of Environmental Research and Public Health*.