



STATE OF HAWAII
DEPARTMENT OF HEALTH
P. O. Box 3378
Honolulu, HI 96801-3378
doh.testimony@doh.hawaii.gov

WRITTEN
TESTIMONY ONLY

**Testimony in OPPOSITION to HB0626
RELATING TO WATER CIRCULATION**

REPRESENTATIVE RYAN I. YAMANE, CHAIR
HOUSE COMMITTEE ON HEALTH, HUMAN SERVICES, AND HOMELESSNESS

Hearing Date: 2/4/2021

Room Number: Via video conference

1 **Fiscal Implications:** In addition to appropriating funds for doing the desired testing, funding is
2 also needed prior to implementing any testing to develop a reliable testing method and to
3 establish health risk threshold levels that can be acted on. This measure will impact the priorities
4 identified in the Governor's Executive Budget Request for the Department of Health's
5 (Department) appropriations and personnel priorities.

6 **Department Testimony:** The Department acknowledges the intent of this measure, but
7 respectfully opposes it due to the lack of established risk standards relating to *Staphylococcus*
8 *aureus* (*S. aureus*), and a lack of Departmental expertise, resources, and funding.

9 The intent of this measure is to better protect the health and safety of persons enjoying
10 the State's beaches by detecting the presence of *S. aureus* in the waters and the sands of the
11 State's beaches and communicating the risk to the public when test results necessitate such
12 action.

13 The Department does not have the resources or expertise to carry out a pilot study of this
14 nature at this time. The Clean Water Branch (CWB) routinely monitors Tier 1 beaches for the
15 fecal indicator bacteria enterococci, which does not indicate the presence of *S. aureus* or any
16 associated health risk. A pilot program would first need to (1) identify or develop a reliable
17 laboratory testing method to detect and enumerate *S. aureus* as well as (2) determine an
18 appropriate action threshold or water quality criterion to protect public health. The Department

1 lacks laboratory resources to develop a reliable testing method for *S. aureus* and such an action
2 threshold has not been reliably established.

3 The Department relies on the United States Environmental Protection Agency (EPA) to
4 develop analytical methods and recommend threshold levels that are scientifically and legally
5 defensible. The EPA does not currently provide any water quality criteria recommendations for
6 *S. aureus* or a threshold level above, which action should be taken. Further, the EPA does not
7 have any criteria for testing beach sand.

8 In developing water quality criteria, a correlation between the number of the organisms
9 detected in a water sample and the health risk associated with that number (number of people
10 likely to become ill when exposed to that number) must be established before a threshold value
11 can be determined. In developing water quality criteria for enterococci, the EPA conducted
12 several epidemiological studies to identify the acceptable health risk (acceptable number of
13 people likely to become ill) that correlated to their recommended action level. Epidemiological
14 studies are prohibitively expensive and are beyond the resource and technical capabilities of the
15 CWB.

16 **Offered Amendments:** The Department respectfully suggests that funding and resources be
17 appropriated to the University of Hawaii as the lead agency in this measure in cooperation and
18 consultation with the Department of Health.

19 Thank you for the opportunity to comment on this measure.

HB-626

Submitted on: 2/2/2021 1:12:28 PM

Testimony for HHH on 2/4/2021 9:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Chad Shibuya	Hilo Medical Center	Support	No

Comments:

To Whom It May Concern-

This testimony is in support of HB626: Relating to Water Circulation

As director of Hilo Medical Center's Infection Control Department, one of my roles is to monitor the conditions which bring people to the hospital. In cases of infection, we track the organisms associated with hospital visits as identified through laboratory cultures. While this proposed legislation addresses both Staph aureus and Methicillin Resistant Staph Aureus (MRSA), we only track MRSA because of its resistance to antibiotics, which can complicate treatment.

MRSA was once an organism only seen in hospitals or in those with frequent contact to the healthcare system. But over the years, hospital acquired MRSA has become less common as we have learned to manage it through a variety of infection control practices. However, while MRSA has decreased in hospitals, it has become the most common antibiotic resistant organism identified in community associated infections. Many of those presenting with MRSA infections do not have prior exposures to healthcare systems.

The Hilo Medical Center Emergency Department treats roughly 350 MRSA cases per year, or about 30 cases per month. While these numbers may seem small, these represent the individuals who were ill enough to seek hospital care, and does not include other types of primary care visits such as Urgent Care or office visits.

Island residents and visitors gather in large numbers at our beaches. Hopefully not so many in this time of COVID. And while Staph aureus and MRSA are mainly known to colonize humans and cause infections under proper conditions, it would be interesting to know if the environment is playing a role as a source of these infections.

If the resources are available to study this topic further, it could have great value to our public's health and wellness.

Sincerely,

Chad Shibuya, BSN, RN, CIC

Hilo Medical Center

Infection Control Department



UNIVERSITY
of HAWAII
HILO

LATE

February 3, 2021

Aloha Representatives,

I am writing you in **support of Bill H.B. No. 626** "Pilot project; Tier 1 Beaches, DOH; *Staphylococcus aureus*; Testing (\$)". Over the last six year with my students at University of Hawai'i at Hilo, I have studied *Staphylococcus aureus*, and its antibiotic resistant strain, Methicillin-resistant *S. aureus* (MRSA), in the environment on Hawai'i Island. This line of researched originally stemmed from casual conversations with students, friends, and family members. People would share first- or second-hand information regarding "Staph" infections they or someone they knew acquired while at the beach. Through several different research projects, we have shown that *S. aureus* and MRSA are present in seawater, beach sands, river water, sewage, street runoff, and watershed soils (Economy et al. 2019). Additionally, concentrations of these pathogens increase following storms, suggesting they have a watershed source (Economy et al. 2019). Within the Hilo Bay watershed, the soils that have the highest concentrations are ones where humans or other animals are present (Gerken et al., in prep). We also conducted a survey at Hilo beaches, and found the highest incidences of self-reported "Staph" infections occurred at surfing and paddling beaches. Ninety-percent of infected beachgoers reported themselves as high recreational water users (daily -weekly) (Jones et al., in prep). Epidemiological studies elsewhere have found that bathers report more skin infections than non-bathers (Fleisher et al. 2010), and are four times more likely to develop *S. aureus* infections (Charoenca & Fujioka 1995). Lastly, findings from a pilot study this summer at Richardson's Beach in Hilo suggest that *S. aureus* concentrations in seawater are higher shortly after peak visitor hours (Gerken et al. unpubl. data). Researchers at other locations worldwide have also documented this pattern (Yoshpe-Purer & Golderman 1987; Charoenca & Fujioka 1993; El-Shenawy 2005; Goodwin et al. 2012).

With funding from the passing of this bill, HDOH will be able to do the first critical step in this research, which is establishing the presence of these pathogens at Tier 1 beaches throughout Hawai'i State. Note, however, the presence of these pathogens does not necessarily provide information on the health risks to beachgoers. We do not know if the strains found in beach water and sand are the ones causing skin infections of beachgoers. This is an essential component of this research. Studies in collaboration with local hospitals and medical offices would be needed to establish this link. Additionally, for mitigation purposes, identifying the sources of the pathogens at these beaches is essential in order to decrease their concentrations in beach water and sand, and potentially reduce the health risks of beachgoers.

Gaining this type of information is essential for Hawai'i State. In the U.S., Hawai'i has the highest prevalence of MRSA infections, twice the national average (Estivariz et al. 2007). Native Hawaiians and Pacific Islanders are disproportionally at risk for acquiring these infections (Melish et al. 2004; Estivariz et al. 2007). Since 2000, incidences of MRSA infections have increased 40% in Hawai'i State largely from community-acquired infections associated with water use (Melish et al. 2004). Percent of positively identified *S. aureus* infections from outpatients in Hawai'i, confirmed as MRSA, range from 22-27% (Li et al. 2005; Theos et al. 2019). This range is comparable to that reported for MRSA in recreational waters of Hawaii (~20-30%) (Economy et al. 2019).

Data from this proposed study will increase out understanding of recreational water use and risk for community-acquired *S. aureus* and MRSA infections in Hawai'i, and public health implications from it

200 W. Kawili St
Hilo, Hawai'i 96720-4091
Telephone: (808) 932-7594
Fax: (808) 932-7998
Email: wiegner@hawaii.edu
web: hilo.hawaii.edu/~wiegner

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will be significant in addressing these infections for other beachgoing communities that rely heavily on a tourist economy.

Mahalo for your consideration of this testimony.

Sincerely,



Tracy Wiegner, Ph.D.

Professor of Marine Science

Director of the Tropical Conservation Biology and Environmental Science Graduate Program

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HB-626

Submitted on: 2/2/2021 5:48:45 PM

Testimony for HHH on 2/4/2021 9:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Sara Perry	Individual	Support	No

Comments:

I support the testing of our tier one beaches for bacteria and other issues, such as staphylococcus. However, testing alone is not going to fix the problem. A lot of the bacteria in our sand and on our beaches is very likely correlated with the number of homeless living on and pooping in our sand, as they lack easy access to restroom facilities. In Nanakuli, Waianae, and Makaha, the problem is particularly noteworthy when you walk along the the sand and regularly see piles of human excrement and toilet tissue. Until we address solutions for the cause of the problem, I don't think that testing alone is going to be a prudent way to spend our tax dollars.

HB-626

Submitted on: 2/2/2021 8:57:08 PM

Testimony for HHH on 2/4/2021 9:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Sherry Evans	Individual	Support	No

Comments:

Aloha!

My name is Sherry Leilani Cordeiro Evans. We have lived at 84-636 Widemann St/Makaha since the 1950's. When my mother was a young girl (she is 88 years now) my grandfather loved to fish on the West side. This lead him and his siblings to buy property although they lived in Honolulu.

THE CLEAN Beaches was their attraction to West Oahu. Our large extended family enjoyed many beach outings @ Pokai Bay. It was where we brought our infants and toddlers to enjoy the calm, cool ocean.HB 626 must be passed because it addresses a Public Health issue ; an environmental issue and a community obligation by the State.

Please consider the legacy you are a part of. Protecting the waters in ocean is protecting our existence.

Mahalo!

Aloha, my name is Tyler Gerken. I am a second year MS in Environmental health graduate student at the University of Washington, School of Public Health. **I support HB626.**

The presence of *Staphylococcus aureus* and methicillin-resistant *S. aureus* (MRSA) are microbial contaminants of concern to recreational swimmers. Around one in three people are carriers of *Staphylococcus aureus* while around 2 percent of people are carriers of MRSA. These pathogens may contaminate beaches in high concentrations from humans as well as from other reservoirs, such as animals, fomites, sand, soil, and wastewater which can be mobilized to nearshore environments from mauka to makai. Furthermore, tens of thousands of tourists visit Hawai'i which facilitates the introduction of foreign MRSA strains which may be potentially more virulent, carry antimicrobial resistant genes, and increase the risk of microbial outbreaks in the local community. To better protect the health and safety of Hawai'i residents (and guests), I support monitoring for the presence of *Staphylococcus aureus* and MRSA at tier 1 beaches in the State of Hawai'i.

Historically, MRSA infections were predominantly associated with hospital and health care facilities but, in the last two to three decades, infections have increasingly been found outside of these environments, where community-acquired MRSA (CA-MRSA) strains typically infect otherwise healthy individuals and are typically more virulent (DeLeo et al., 2010). A trademark of CA-MRSA infections are skin and soft tissue infections (SSTI) which account for around 90% of CA-MRSA infections and frequently manifest as abscesses or cellulitis (Fridkin et al., 2005; Khawcharoenporn et al., 2010) but in rare cases manifested as necrotizing fasciitis (Miller et al., 2005), pyomyositis and myositis (Pannaraj et al., 2006), osteomyelitis (Arnold et al., 2006), or severe necrotizing pneumonia (Francis et al., 2005; Gonzalez et al., 2005).

In Hawai'i, children 16 years and under with previous seawater contact had 4 times the odds of developing staphylococcal skin infections compared to children without seawater contact (Charoenc and Fujioka, 1993). Furthermore, fecal indicators, antimicrobial resistance genes, and pathogens, including MRSA was found to correlate with the incidence of gastrointestinal illnesses in a prospective epidemiological study at three California beaches during the summers of 2007-2009 (Griffith et al., 2016). In the United States, CA-MRSA morbidity and mortality in 2011 was estimated at 5.31 (95% CI: 4.11-7.00) and 0.57 (0.30-1.04) per 100,000 persons (Dantes, 2013). Furthermore, from 2005 to 2011, adjusted CA-MRSA incidence rates decreased minimally compared to health care-community onset and hospital-onset (-5.0%, -27.7%, -54.2%, respectively) (Dantes, 2013). Appropriate signage is critical at recreational beaches to educate the general public to shower both before and after entering the water. While a majority of people shower after swimming, the absence of showering before entering the water allows 'Staph', and/or MRSA to be shed from the skin of beach goers. This change in behavior is critical to potentially reduce the presence and concentrations of Staphylococci in recreational waters. Therefore, to better understand the health risks 'Staph' bacteria pose to the general public, **I support HB626.**

Mahalo,

Tyler Gerken

HB-626

Submitted on: 2/2/2021 11:29:29 PM

Testimony for HHH on 2/4/2021 9:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Shelli McDow	Individual	Support	No

Comments:

Aloha!

My Name is Shelli and I am a Business owner and law school student. I also live in Makaha. I am writing in support of HB626 because I support our community being proactive rather than reactive. I think if there were an effective and practical way to decrease the number of Staph infections in Poka'i bay and similar beaches, then we should support those efforts. HB626 proposes just that and I would highly recommend that it passes. I personally have experience with Staph infections with clients and I am concerned with covid-19 still being a worry for our island, that having unnecessary and preventable infectious outbreaks is counter to our efforts to remain safe and healthy. I think that areas like Poka'i Bay get forgotten out here on the westside and we are a community of beach lovers, comprised of mostly Native Hawaiian and locals. We deserve adequately monitored safe and clean swimming conditions. Mahalo!

HB-626

Submitted on: 2/2/2021 11:41:59 PM

Testimony for HHH on 2/4/2021 9:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Alyson Hiapo	Individual	Support	No

Comments:

To whom it may concern,

I support HB 626 and wish to share my concern for the waters of PÅ• ka'Ä« bay in that due to the man made jetty, the ocean water will tend to become stale due to less circulation of the waters within the jetty not citculating with the waters outside of the jetty. I would like to see frequent testing of the waters within the beach atea. I enjoy taking walks along the shoreline, swimming in the bay and sharing the water with the halalu who enjoy the clear blue waters. The Hawaiian monk seal in 2020 would come into the bay and do laps- what a beautiful site so special for young and matured beach goers to witness. Our visitors to the islands are so excited to be enjoying this beach with these marine mammals, which are not at all common at other beaches in the islands. Where else can you see dolphins, monk seals, naia and 'ia within neneu? May we, the Wai'anae with the State kÅ• kua this special, magical wahi pana for all of us to enjoy and to preserve and restore for all our future generations. Our mauli 'ola is important, please help all of us be safe by keeping a very important resource, our famous beaches in the best pristine condition forever.

me ka ha'aha'a,

Alyson Hiapo
Support HB 626 ke 'olu'olu!

LATE

HB-626

Submitted on: 2/3/2021 9:19:22 PM

Testimony for HHH on 2/4/2021 9:00:00 AM

Submitted By	Organization	Testifier Position	Present at Hearing
Tao Yan	Individual	Oppose	No

Comments:

My name is Tao Yan. I am a PhD and a professor of Civil and Environmental Engineering at the University of Hawaii (UH).

I am in support of the intention of HB626, but oppose the bill because the proposed pilot project should be led by UH, instead of by HDOH.

I fully support the intention of HB626 because it addresses an important environmental quality and public health issue related to Hawaii's beach water and sand. Although stories about Staph/MRSA infection and beach use are often told, there have been only a few scientific studies on the subject in Hawaii, all of which are dated. Given the critical health and economical importance associated with Hawaii's beaches, it is imperative for us to achieve a better understanding of the health risks and the environmental factors driving the risks.

However, the proposed 2-year pilot project is better led by UH than by HDOH. As a research institution, UH is better equipped to address the many research questions inherent of the pilot project. For example, new measurement methods would need to be developed to ensure timeliness of proposed routine monitoring efforts, and new risk assessment and decision making framework would need to be developed and validated. UH also has the necessary technical expertise (e.g. my research group at UH has been working on bacterial contamination in Hawaii beach water and sand for more than 14 years), and the organizational flexibility needed for this pilot project.