Hello there! The weather here is great, but the city is more crowded than we thought. Despite its tropical climate, fragrant breezes, and beautiful beaches, anyone who has ever been in traffic on the way to town from the airport knows that Hawaii’s capital city of Honolulu is a pretty crowded place. The population of the city and county of Honolulu, which includes the entire island of Oahu, would rank it near the top 10 of the most populous U.S. cities. Hawaii itself is ranked 13th among states in population density. Located in the middle of the Pacific Ocean, Hawaii is the most geographically isolated major population center in the world, with the next closest major city at least a 5-hour plane ride away.
**Besides the beautiful scenery, there is a lot of history here.** Sure there are waves, migrating whales, and active volcanoes, but Hawaii has the only royal palace in the United States, and as its point of entry into World War II, Pearl Harbor National Park is the State’s most popular visitor attraction. Even Hawaii’s hospitals are historic. Kapi‘olani Medical Center for Women & Children (KMCWC) is a non-profit community hospital in Honolulu that was founded in 1890 by Queen Kapi‘olani. She held bazaars and luaus to raise money to build a hospital so that the Hawaiian Kingdom’s unusually high infant mortality rate might be reduced. KMCWC has grown to be a 207 bed tertiary care, medical teaching, and research facility. With over 6,000 births a year (a third of the State’s annual total), 44,000 ER visits, and 600 critical care transports each year, it is Hawaii’s only maternity, newborn, and pediatric specialty hospital, and serves as the University of Hawaii’s primary teaching facility for Obstetrics/Gynecology and Pediatrics. KMCWC provides services for patients throughout Hawaii and the Pacific Region, including Guam, Saipan, the Commonwealth of the Northern Mariana Islands (CNMI), the Federated States of Micronesia, the Republic of the Marshall Islands, and American Samoa. The medical center’s referral base spans a geographic area larger than the continental United States. Yet, of the State’s 1.4 million residents, only about 300,000 are children, which is less than one-third the usual population needed to support a tertiary care pediatric hospital.

**The people are beautiful.** Of the 50 states, Hawaii ranks only 40th in total population, but 6th in terms of multiracial population, and is the only state to have a tri-racial group (Caucasian, Asian, Native Hawaiian/Pacific Islander) as its largest multiracial group. Much of this diversity is a product of Hawaii’s plantation history, which brought waves of Portuguese, Puerto Rican, Chinese, Japanese, Okinawan, Korean, and Filipino immigrants to its shores. The most recent addition started after approval of the Compact of Free Association in 1986. Over 15,000 Micronesians from the Federated States of Micronesia, the Republic of the Marshall Islands, and the Republic of Palau have since made Hawaii their home, and their numbers continue to grow.

**Too bad stuff costs so much here.** A recent study by the Tax Foundation showed that Hawaii ranks last among the 50 states for the relative value of $100. Yet, it is the priciest state in the nation to buy a home, with an average listing of $1.1 million for a four-bedroom house in urban Honolulu. It is also the most expensive state in the country to rent. Data from the federal Bureau of Labor Statistics show that Hawaii ranks only 26th in average weekly wages. One contributing factor is the state’s high percentage of service...
employees. The non-profit Hawaii Appleseed Center reported that Hawaii has the highest cost of living, but the lowest wages in the country when adjusted for the amount of money it takes for a family to get by here.

**But there are some bright spots.** Just 4% of Hawaii’s population lacks health insurance (down from 5.3% in 2014), placing Hawaii fourth lowest in the nation in terms of uninsured. Despite geographic isolation Hawaii residents have access to specialized therapy such as solid organ and stem cell transplant. Kapi'olani operates the State’s only hematopoietic progenitor cell transplant program since the adult program closed at another facility over five years ago. KMCWC developed its pediatric transplant program to help local families avoid the tremendous psychosocial, cultural, and economic hardships of having to travel to the mainland for treatment that is not available in Hawaii. Initially under the membership umbrella of the adult transplant program, since 2012 Kapi'olani has maintained its own independent status as a National Marrow Donor Program (NMDP) transplant center. It also developed marrow collection and apheresis centers that have since become part of the NMDP network.

KMCWC leverages its services whenever possible through participation in cooperative groups like the Pediatric Blood and Marrow Transplant Consortium and the Blood and Marrow Transplant Clinical Trials Network. Hawaii Pacific Health, the hospital’s parent institution, has a formal collaboration with the Seattle Cancer Care Alliance. KMCWC also taps into expertise available at mainland programs such as the Ann & Robert H. Lurie Children’s Hospital of Chicago and the Mattel Children’s Hospital at UCLA, and has worked with individual investigators at the Fred Hutchinson Cancer Center and the MD Anderson Cancer Center. With this support, the Hawaii hospital performs autologous stem cell transplants as well as allogeneic related donor, matched adult unrelated donor, related and unrelated umbilical cord blood, and haplo-identical donor (post-transplant cyclophosphamide) transplants.

**Most everything is locally grown.** With its limited population base, finding qualified clinical staffing can be a challenge. Kapi'olani has addressed this by developing an active new graduate program for nurses that identifies individuals with specialized interests such as PICU, ER, OR, and Hematology/Oncology, and fosters their professional growth through the use of defined learning pathways. In the case of transplant nurses this leads to chemotherapy certification, membership in the Association of Pediatric Hematology/Oncology Nurses (APHON), and specialized training in transplant. While staffing is occasionally supplemented with mainland recruits, for the most part, since there are no other transplant programs in the State, pediatric nurses trained through this local system tend to stay with the hospital for several years. This results in a very low staff turnover rate, which helps the transplant program to maintain quality of care in a setting of relatively small patient numbers.

**Everyone seems to know each other.** Working in a small, isolated market can have its advantages in that it fosters interactions. For example, the Pediatric Oncology/Transplant program collaborates with the University of Hawaii’s Translational Health Science Simulation Center (THSSC) in the School of Nursing and Dental Hygiene. In turn, the THSSC works with
the University’s Graduate Program in the Department of Theatre and Dance, where drama students in the HealthCAST program act as simulated patients. Kapi‘olani transplant physicians, palliative care and intensive care physicians, an oncology nurse specialist, and an oncology patient navigator work with faculty in the School of Nursing, the Myron B. Thompson School of Social Work, the Pacific Health Ministry Residency Program, and the Hawaii Residency Program in Pediatrics. Together they have designed scenarios using actors portraying family members to improve healthcare provider communication skills in facilitating advance care planning and end of life discussions for pediatric patients and their families. Using these simulated encounters, participating third year pediatric residents, senior nursing students, MSW graduate students, and pastoral care interns train together to work as part of an inter-professional team.

And everyone pulls together to make things work. Hawaii’s diverse patient population makes it difficult to find appropriate donors when there are no available matches within the family. To help address this, the Hawaii Bone Marrow Donor Registry (HBMDR), an affiliate donor center of the NMDP, strives to maintain an ethnically diverse donor file. Over 8% of the State’s eligible population is registered with the NMDP, one of the highest volunteer rates in the country. The Hawaii Cord Blood Bank, working in collaboration with Bloodworks NW in Seattle, WA, collects umbilical cord blood from all five birthing hospitals on Oahu, as well as from the Maui Memorial Medical Center. Over 85% of HCBB’s banked cord blood units come from minority/mixed race donors. Founded in 1989, HBMDR has provided over 400 transplant matches worldwide, while HCBB, begun in 1997, has provided more than 200 cord blood units for transplantation. The clinical program, marrow collection center, and apheresis center are all hospital units located on the KMCWC campus, but the HLA and cell processing laboratory, HBMDR, and HCBB have their own distinct non-profit corporate status and are in physically separate locations. Representatives from all these groups convene regularly to coordinate patient care, transplant timing, cell collection, donor recruitment, and quality initiatives. The transplant program receives strong support from Hawaii’s major third party payors, who recognize the overall cost savings in allowing local families to remain at home for their treatment.

Wish you were here. Aloha! Hawaii’s geographic isolation and its socio-economic environment can pose significant challenges for families having to travel to the mainland for treatment. By fostering close collaborations, KMCWC provides pediatric transplant services that give local children and their families access to this life-saving therapy without being forced to leave home. In this way, the hospital continues to honor the original intent of its founder, Queen Kapi‘olani, whose personal motto was “Kūlia i ka Nu‘u” – Strive for the Highest.