UNIVERSITY of HAWAI'I SYSTEM

David Lassner
President

DEPT. COMM. NO. 245

December 23, 2020

The Honorable Ronald D. Kouchi,
President and Members of the Senate
Thirty-First State Legislature
Honolulu, Hawai'i 96813

The Honorable Scott Saiki, Speaker
and Members of the House of Representatives
Thirty-First State Legislature
Honolulu, Hawai'i 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

For your information and consideration, the University of Hawai'i is transmitting one copy of the Annual Report from the Hawai'i Medical Education Council (Section 304A-1704, Hawai'i Revised Statutes) as requested by the Legislature.

In accordance with Section 93-16, Hawai'i Revised Statutes, this report may be viewed electronically at: http://www.hawaii.edu/offices/government-relations/2021-legislative-reports/.

Should you have any questions about this report, please do not hesitate to contact Stephanie Kim at 956-4250, or via e-mail at scskim@hawaii.edu.

Sincerely,

David Lassner
President

Enclosure

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UNIVERSITY OF HAWAI'I SYSTEM ANNUAL REPORT

REPORT TO THE 2021 LEGISLATURE

Annual Report from the
Hawai'i Medical Education Council

HRS 304A-1704

December 2020

Table of Contents

INTRODUCTION

Executive Summary

Physician workforce shortages persist and worsen

Hawaiiʻs significant physician shortage persists and, relative to the aging population and the aging provider workforce, is now more severe than in 2018. The current state provider shortage is slightly over 1,000 physicians when accounting for neighbor island and specialty demands. This shortage remains more pronounced in all areas of the state outside of Honolulu proper. The shortage is projected to worsen as demand for medical care increases with an aging population burdened by increasing chronic illness and aging providers who are retiring and/or moving out-of-state. The largest and most impactful shortages statewide, on all islands, are in primary care (family medicine, primary care internal medicine, pediatrics, and geriatrics). Insufficient access to primary care frequently results in delays in care as well as more costly care in emergency departments or hospitals. Several other specialties have large shortages including colorectal surgery, psychiatry, pulmonology, infectious disease, and hematology-oncology. The shortages are felt most acutely on the neighbor islands. Practicing physicians in all specialties were already closing practices to new Medicaid or Medicare patients pre-COVID but the pandemic has worsened the primary care and physician shortage crisis. The excess cost associated with avoidable emergency care is frequently borne by the state and by Hawaii's hospitals.

Why Graduate Medicine Education (GME) Matters

Physicians who train in Hawaiʻi are far more likely to practice in Hawaiʻi. (See Appendix D). Studies of Hawaiʻi's physician population consistently show that most Hawaiʻi physicians have strong, long-standing family ties to our state. The University of Hawaiʻi John A. Burns School of Medicine (UH JABSOM) is by far the greatest medical school source of Hawaiʻi's physicians. Physicians who train in Hawaiʻi-based residency programs (also known as Graduate Medical Education or GME programs) are also more likely to practice and remain in Hawaiʻi. The retention rate (i.e., practicing in Hawaiʻi) for physicians who do both their medical school education and their full GME training in Hawaiʻi is nearly 80%.

Despite extreme physician shortages and the expansion of the JABSOM class size to 77 matriculates per year, there has been a contraction of overall GME positions in Hawaiʻi from 241 (2009) to 230 (2020) [-5%]. Nationally, Hawaiʻi is in the bottom quintile of GME positions per population. (See Appendix C)

Our GME programs, especially those in primary care, geriatrics, psychiatry (adults and children), and addiction medicine, serve a high proportion of Oʻahu's most vulnerable populations – in both the outpatient and inpatient settings. The COVID-19 pandemic has laid bare and accentuated existing health inequities. Our GME learners and faculty have been on the front lines in clinical settings, working with health system leaders to ensure our diverse populations receive the highest quality of care during this especially challenging time.

This downward trend in GME training positions based in Hawaiʻi at a time of critical physician shortage is of grave concern to this Council.

Decreased federal and local GME funding, resulting in loss of GME positions

Funding is the largest barrier to expanding GME in Hawai'i. The federal GME reimbursement from the Centers for Medicare & Medicaid Services (CMS) to teaching hospitals has decreased substantially over the past several years and will continue to shrink. Hawai'i's major community teaching hospitals (The Queen's Health Systems hospitals, Hawai'i Pacific Health system hospitals, Kuakini Medical Center) have historically funded the gap between the cost of GME and federal GME support for these programs. However, with the economic impact of COVID-19, our teaching hospitals are finding it increasingly difficult to fund the growing gap between the actual cost of training and federal GME support due to declining reimbursement for medical care, steeply rising hospital costs, increasing malpractice claims naming residents who function as trainees under the supervision of a fully licensed attending physicians, and increasing amounts of under-compensated care for certain high-risk populations. Any significant GME training expansion in the next few years will not be possible on the shoulders of our health systems alone.

State reductions in funding to the UH and JABSOM have also resulted in reduced funding for key faculty who are needed to provide excellent teaching and further expand selected GME programs. Financing GME in a sustainable manner to address future provider training needs remains a critical challenge for JABSOM, teaching hospitals, and the state legislature.

Myriad other factors negatively impact our ability to retain our GME trainees in Hawai'i and/or to attract and retain them to practice in the neighbor islands or more rural community settings. This report documents specific strategies to understand and reverse the decline of GME training opportunities and the resultant impact on the health of the peoples of Hawai'i. Expanding GME to meet the needs of Hawai'i's population will require close collaboration and synergistic efforts with the State, teaching hospitals, private practicing physicians, businesses, private foundations, and federal government agencies including the United States Department of Defense, United States Department of Veterans Affairs, and the United States Health and Human Services Departments (CMS, HRSA).

The HMEC discussed these findings and recommendations in the context of the economic impact of COVID-19. One of the busiest parts of the state's economy from the perspective of service delivery is the health care sector. Numerous studies have demonstrated strong correlation between a healthy economy and health and education conditions of the population. Having a vibrant medical school that addresses the underlying contributors to health disparities and brings federal dollars to Hawaii to address those mechanisms critical to improving Hawai'i's overall health. Many of the medical school faculty have played active roles on the front lines at our health system facilities and on behalf of the Hawai'i State Department of Health and the Hawai'i Emergency Management Agency. As the state addresses the pandemic and related health impact, one of the areas where future economic growth can occur (in synergy with other sectors of the economy) is in the health sciences both through service delivery and federally supported innovation and discovery through research. Having sufficient faculty who contribute to instruction and innovation/discovery will be essential to ramping up the health science sector of the economy during an economic recovery.

RECOMMENDATION #1

UH/HMEC recommends that the 2021 State Legislature and State Executive Branch continue to support and provide a State financial match to the Hawaii State Loan Repayment Program. Ideally, this match would be provided as a supplement to the annual Department of Health (DOH) budget with the explicit instruction for the DOH to annually transfer those funds to JABSOM as

long as JABSOM oversees the health professional loan repayment program for Hawai'i - including coordination of the National Loan Repayment Program Federal match for Hawai'i.

RECOMMENDATION #2

UH/HMEC recommends that the 2021 State Legislature and State Executive Branch provide funding to support the JABSOM faculty and staff, as well as both the medical student and residency curricula. The curricula needs support in order to maintain existing medical student and resident rotations on the neighbor islands, and to maintain currently existing innovative programs which serve to meet the needs of underserved communities.

RECOMMENDATION #3

UH/HMEC recommends that the State Department of Human Services and other stakeholders develop a working group to explore the mechanisms and develop a plan to obtain future Federal Medicaid GME funding since many of the residency programs provide inpatient and ambulatory care for Medicaid populations.

Statutes and Definitions

The University of Hawai'i System (UH) and its John A. Burns School of Medicine (JABSOM) administer two (2) statutes related to graduate medical education (GME) and addressing the severe physician shortage needs in Hawai'i. *See excerpted text of statutes in Appendix A.*

- [HRS § 304A-1702] – **GRADUATE MEDICAL EDUCATION (GME) PROGRAM** was established to formally encompass the administration of UH JABSOM's institutional graduate medical education (GME) program.
- [HRS §§304A-1703, 1704, 1705] – **MEDICAL EDUCATION COUNCIL,** was created within UH JABSOM and called "The Hawai'i Medical Education Council" (HMEC). HMEC was given the administrative **DUTIES AND POWERS** to:
    1) Analyze the State healthcare workforce for the present and future, focusing in particular on the State's need for physicians;
    2) Assess the State's healthcare training programs, focusing on UH JABSOM's institutional GME enterprise to determine its ability to meet the workforce needs identified by HMEC;
    3) Recommend to the Legislature and UH Board of Regents (BOR) ways in which identified GME and other healthcare training programs can improve and change in order to effectively meet the HMEC assessment;
    4) Work with other entities and state agencies, and in consultation with the Legislature and BOR, develop and implement a Plan to ensure the adequate funding of healthcare training programs in the State, with an emphasis on UH JABSOM GME programs;
    5) Seek funding to implement the Plan from all public (county, state and federal government) and private sources;
    6) Monitor and continue to improve the funding Plan; and,
    7) Submit an annual report to the Legislature no later than twenty days before the convening of each regular Legislative session.

HRS §304A-1701 defines **"GRADUATE MEDICAL EDUCATION"** or **GME** as that period of clinical training of a physician following receipt of the medical doctor (or osteopathic doctor) degree and prior to the beginning of an independent practice of medicine.

"GRADUATE MEDICAL EDUCATION PROGRAM" means a GME program accredited by the American Council on Graduate Medical Education (ACGME). UH JABSOM has maintained full ACGME institutional accreditation.

"HEALTHCARE WORKFORCE" includes physicians, nurses, physician assistants, psychologists, social workers, etc. **"HEALTHCARE TRAINING PROGRAMS"** means a healthcare training program that is accredited by a nationally recognized accrediting body.

HMEC Membership

Membership in the Hawai'i Medical Education Council (HMEC) is comprised of eight Governor-appointed and Legislature-confirmed individuals and five ex-officio members depicted in Table 1.

Table 1: Hawai'i Medical Education Council Membership & Staff

Member #	Last Name	First Name	Representing	Appointment Date
Ex-Officio	Hedges	Jerris	Dean, UH JABSOM	Not Applicable
Ex-Officio	Boland	Mary	Dean, UH School of Nursing	Not Applicable
Ex-Officio	Holcombe	Randall	Director, UH Cancer Center	Not Applicable
Ex-Officio	Buenconsejo-Lum	Lee	Associate Dean for Academic Affairs, UH JABSOM	Not Applicable
Ex-Officio	Char	Elizabeth	Director, Hawai'i State Department of Health	Not Applicable
1	Ryder	Kathryn	The Federal Healthcare Sector	7/1/2019
2	Flanders Rosen	Christopher Linda	The Health Professions Community	7/1/2019 7/1/2020
3	Hixon	Allen "Chip"	The Health Professions Community	7/1/2019
4	Rantz	Lisa	Person from the General Public	7/1/2017
5	Robbins	Kenneth	A Hospital at Which Accredited Graduate Medical Education Programs are Conducted	7/1/2017
6	Seto	Todd	A Hospital at Which Accredited Graduate Medical Education Programs are Conducted	7/1/2019
7	Sterbis	Joseph	A Hospital at Which Accredited Graduate Medical Education Programs are Conducted	9/1/2019
8	Apoliona	Nicole	The Health Professions Community	9/17/2020
HMEC/GME Administrator	Buenconsejo-Lum	Lee	GME Director, UH JABSOM Associate Dean for Academic Affairs, UH JABSOM	Not Applicable
Administrative Support Staff	Costa	Crystal	GME Program Specialist, UH JABSOM	Not Applicable

PART 1. FINDINGS

HMEC Meetings

Four (4) HMEC meetings were convened and are covered in this report. Agendas and minutes were posted on our JABSOM website as required for meetings held on January 27, April 27, July 20, and October 26, 2020. Appendix B shows a sample meeting agenda. Each item provides members with an opportunity for strategic brainstorming, synthesis, and development of specific next steps, recommendations, and/or directives to the HMEC/GME administrator.

Statutory Duties of HMEC

DUTY (1): Analyze the State healthcare workforce for the present and future, focusing in particular on the State's need for physicians

The 2020 Hawai'i Physician Workforce Assessment Project showed 3,290 physicians practicing in non-military settings in Hawai'i. These physicians provide a total of 2,812 full-time equivalents (FTE) of direct care to patients, a decrease of 162 from 2019. However, there remains a shortage of about 717 FTE of physician services to meet the demand [Figure 1] and 1,015 FTE

short when examining specific island and specialty needs. Last year's shortage numbers were 820. Table 2 reflects the physician shortage by county. Table 3 shows the largest shortages remain in primary care, however other specialties and subspecialties are also needed throughout the State. Selected information from the *Report to the 2021 Legislature, "Annual Report on Findings from the Hawai'i Physician Workforce Assessment Project",* is included below.

Figure 1: Hawai'i Physician Supply and Demand FTE Comparison over Time as of November 2020

Table 2: Physician Shortage, in Numbers & % Shortage, by County, 2019 & 2020

Shortage Type	O'ahu	Big Island	Maui	Kaua'i	Statewide
FTE Shortage - 2019	377	230	153	60	820
Percent Shortage - 2019	16%	44%	36%	32%	24%
FTE Shortage - 2020	475	287	191	61	1015
Percent Shortage - 2020	20%	53%	43%	33%	29%

Table 3 Primary Care Physician Shortage, in Numbers & % Shortage, by County, 2019 & 2020

Shortage Type	O'ahu	Big Island	Maui	Kaua'i	Statewide
FTE Shortage - 2019	192	47	43	21	300
Percent Shortage - 2019	22%	25%	27%	31%	23%
FTE Shortage - 2020	258	73	64	17	412
Percent Shortage - 2020	29%	37%	40%	25%	32%

- The greatest number of physicians needed is in the category of primary care (family medicine, internal medicine, pediatrics and geriatrics). The impact of the physician shortages on access to care is felt most severely on the neighbor islands because of the geographic limitations to access.
- There are also large shortages of colorectal surgery (65%), selected internal medicine subspecialists such as pulmonology (63%), infectious disease (58%), and hematology and oncology (44%) throughout the islands. Because of the relatively small population, most subspecialists (surgical or medical) would have insufficient patients to maintain a full-time practice on a neighbor island. Insufficient behavioral health providers (physicians and non-physicians) remain a challenge on every island, especially in Hawai'i and Maui counties with the lack of access likely influencing continued high chemical dependency rates and suicide.
- Physician retirement is a major factor in widening the gap between demand and supply. About half (46%) of practicing Hawai'i physicians are older than 55 with 21% already over 65, which means they will be in retirement age or retiring within 10 years or less. Payment transformation and other major health system changes are pushing some older physicians in small offices (those with less than 5 physicians per practice) toward an early retirement. On average, Hawai'i loses an average of 50 FTE of physicians annually due to retirement. In 2016, 65 retired and 136 left the State. In the three-year period of 2017-19, at least 223 physicians retired and 385 are known to have left the state. In 2020, at least 110 retired, at least 139 left the state and 120 decreased their time in practice.
- The JABSOM GME programs graduate about 85 residents and fellows per year, but most surgeons and orthopedic surgeons, about half of pediatricians and about two-thirds of internal medicine residents go to the continental U.S. for sub-specialty fellowships. Many of those with Hawai'i ties do eventually return home, but that return may be at least 10-15 years later depending on the specialty. The Hawai'i Island Family Medicine Residency Program (Hawai'i Health Systems Corporation (HHSC-sponsored)) graduated 4 physicians in 2020 and will soon graduate 6 physicians in 2021. Most of their graduates thus far have stayed in Hawai'i to practice. The Kaiser Permanente Internal Medicine Residency Program graduates 5 per year, with two of their recent graduates currently practicing primary care internal medicine in Hawai'i.

- Appendix D provides a snapshot of JABSOM medical school or GME graduates practicing in Federally or State-designated health professions shortage areas or medically underserved areas.

DUTY (2): Assess the State's healthcare training programs, focusing on UH JABSOM's Institutional GME enterprise to determine its ability to meet the workforce needs identified by HMEC

The GME programs of UH JABSOM are fully accredited and in substantial compliance with accreditation requirements. The UH JABSOM is the sponsoring institution for nineteen programs (Table 4). Eighteen (18) GME programs are fully accredited by the ACGME and one is accredited by the National Office of Complex Family Planning. Without a UH owned-and-operated hospital, beginning in 1965 UH JABSOM formed collaborations with private community hospitals/clinics and state and federal health care departments and agencies to form an integrated network of teaching hospitals/clinics. UH JABSOM learners, i.e., residents and fellows (and 3rd and 4th-year medical students), are educated and trained within this network of clinical learning environments. In addition, the core teaching hospitals and clinics house UH JABSOM's eight clinical departments: Family Medicine (Hawai'i Pacific Health-Pali Momi Medical Center), Geriatric Medicine (Kuakini Medical Center), Obstetrics/Gynecology and Pediatrics (Hawai'i Pacific Health-Kapi'olani Medical Center), and Internal Medicine, Pathology, Psychiatry and Surgery (The Queen's Medical Center).

An average of 230 physician-trainees matriculate annually through one of the Accredited GME programs listed in Table 4. About a third of these physicians are graduates from UH JABSOM, a third from U.S. Medical Schools outside Hawai'i, and a third from international medical schools.[1] This mix of Hawai'i, U.S. national, and international medical graduates (IMG) are considered ideal for Hawai'i-based GME programs, and particularly appropriate for Hawai'i with its diverse, multicultural population of indigenous and immigrant ethnic groups. JABSOM's GME programs produce primary care, specialty, and subspecialty physicians who become independent licensed practitioners in Hawai'i, Guam, Commonwealth of the Northern Mariana Islands, American Samoa, the Compact of Free Association nations, i.e., Federated States of Micronesia, Republic of Palau, Republic of the Marshall Islands, and North America. There are also a few graduates who have returned to Japan to transform the medical education system there to be more consistent with the competency-based training model used by all ACGME-accredited residency and fellowship programs.

Table 4: UH JABSOM GME RESIDENT & FELLOW POSITIONS COMPARED TO 2009 HMEC REPORT

UH JABSOM GME PROGRAM Core Residency Programs (8):	2009 Actual Positions	*2009 Additional Positions Needed to Address Shortage	2020-21 Actual GME Positions	Current GAP positions	Desired Total GME Positions in 2025
Family Medicine (FM)[A]	18	18	21	15	36
Internal Medicine (IM)[B]	58	9	59	8	67
Obstetrics & Gynecology (OB/GYN)	25	0	25	0	25
Orthopedic Surgery (ORTHO)	10	5	10	5	15
Pathology (PATH)	10	6	10	6	16
Pediatrics (PEDS)	24	0	24	0	24
Psychiatry (PSY)[C]	28	0	28	0	28
Surgery (SURG)[D]	23	7	21	9	30

[1] Since 2002, the number of available residency positions across the U.S. has exceeded the combined numbers of graduates from U.S. allopathic and osteopathic medical schools. According to the 2020 National Residency Match Program report, 77% of PGY-1 positions were filled with U.S. graduates, 10% of positions were filled by U.S. citizen-IMG, and 13% filled by non-U.S. IMG.

UH JABSOM GME PROGRAM Core Residency Programs (8):	2009 Actual Positions	*2009 Additional Positions Needed to Address Shortage	2020-21 Actual GME Positions	Current GAP positions	Desired Total GME Positions in 2025
Core Program TOTALS	**206**	**45**	**198**	**43**	**241**
Subspecialty Fellowship Programs (11):	**2009 Actual Positions**	***2009 Additional Positions Needed to Address Shortage**	**2020-21 Actual GME Positions**	**Current GAP positions**	**Desired Total GME Positions in 2025**
FM-Sports Medicine (SM)	1	0	1	0	1
IM – Cardiovascular Disease (CVD)	6	3	9	3	12
IM – Geriatric Medicine (Geri-Med)	10	0	7	3	10
OB/GYN – Maternal Fetal Medicine (MFM)	1	3	3	0	3
OB/GYN – Family Planning (FP)	n/a	n/a	2	0	2
PEDS-Neonatal Perinatal (Neo-Peri)	4	0	1	3	4
PSY-Addictions Psychiatry (Addict-PSY)	2	2	0	4	4
PSY-Child & Adolescent Psychiatry (CAP)	4	2	6	0	6
PSY-Geriatric Psychiatry (Geri-PSY)	1	0	0	1	1
PSY- Addiction Medicine (ADM)	n/a	n/a	1	n/a	2
SURG-Surgical Critical Care	2	0	1	2	3
Subspecialty Program TOTALS	**35**	**7**	**31**	**16**	**48**
Core + Subspecialty TOTALS	**241**	**52**	**229**	**59**	**289**

Priorities for new or expanded GME programs at JABSOM (superscripts are from Table 4).

[A] Family Medicine (FM) (3-year core program). Given the high need for primary care, as well as the FM Program's track record of retaining 80-85% of their graduates in Hawai'i (including several on Hawai'i Island, Maui, and Kaua'i), the short-term goal was to expand the program to 21 residents over the next 3-4 years which has been met. If resources allow, further expansion to 24 residents would occur in 5-6 years. Ideally, the program would have 36 residents, with at least 12 in rural training tracks, where the last 2 years of their training would be done on a neighbor island (i.e., Kaua'i, Maui). Expansion to the neighbor islands requires teaching and clinical space, as well as faculty resources and judicious use of telehealth to connect to specialists and FM colleagues on O'ahu.

[B] IM – Subspecialty programs and fellowships. Gastroenterology (3-year Fellowship) – This remains a high need, especially given the increased prevalence of liver disease in certain Pacific populations and greater endoscopic procedural needs in the elderly. Medical Oncology (2-year Fellowship) – Given the high burden of cancer, which is expected to increase as Hawai'i 's population ages, and the anticipated retirement of almost 25% of our current oncology workforce within the next 10 years, we are starting to explore development of a small medical oncology fellowship (1-2 fellows per year). More academic subspecialty faculty would first need to be hired before pursuing either of these options actively. Exploration of the fellowships and other medicine subspecialty programs (such as neurology) are presently on hold due to the severe resource restrictions worsened by the COVID-19 pandemic. The core Internal Medicine program has developed a Primary Care Track and had increasing numbers of recent graduates choosing careers in Primary Care.

[C] Addiction Medicine (ADM) (1-year Fellowship) – Due to the high prevalence of substance use disorders and/or chronic medical and social conditions resulting from addiction to various substances, we were successful in creating this ACGME approved Fellowship that began on July 1, 2019 with one fellow. The Fellow is trained in both the inpatient and Emergency Medicine settings, as well as in ambulatory and community-based settings so that important primary care-

behavioral health integration and complex care management can be well coordinated across settings and providers. As resources expand, we are aiming to train 2 Fellows per year.

[D] Emergency Medicine (EM) (3-year core program) – Although present workforce models do not presently show this as a high need, an extensive review was done by the various emergency medicine groups throughout Hawai'i. That review shows high need in rural areas and especially for physicians who have very close ties to the community. Given the shortage of primary care (and other specialty) physicians across the state, our hospitals' emergency departments (with their emergency physicians) provide a safety net for many who seek health care in Hawai'i and will continue to do so for the foreseeable future. This possibility of a joint program with Tripler Army Medical Center continues to be explored, but is not likely in the near future due to fiscal and other constraints resulting from the pandemic.

Large Gaps remain in the number of GME positions needed

- Table 4 shows the large current gap of 59 positions in GME needed to address both current and 2021 projected Hawai'i Workforce Shortages. Additionally, the total number of GME positions is 12 ***less*** than it was in 2009 (last year this was 9 less).
- Prior to the pandemic, there was insufficient and declining federal and hospital funding and almost no State funding for more resident/fellow positions. This has been worsened by the pandemic.
- To achieve growth, resources beyond resident positions and administrative support are also needed for faculty and clinical training sites to ensure the provision of appropriate clinical supervision in the context of providing high quality and safe patient care. Many of the patients cared for on the academic teaching services are under- or uninsured and/or highly medically and socially complex.

Continuing work on improving retention (or return to Hawai'i) of GME program graduates

- JABSOM has increased its class size to maximum capacity. Since July 2019, has accepted seventy-seven (77) medical students. In July 2020, 10 who self-identify as Native Hawaiians were accepted into the UH JABSOM class of 2024 from a pool of 2,176 applicants. Sixty-four (83%) of the entering students attended high school in Hawai'i and 28 (36%) were graduates of UH. The new class includes two residents from Hawai'i Island, three from Maui, and one from Kaua'i. Sixty are from O'ahu and seven of the new class earned their way into the Class of 2024 through the challenging one-year 'Imi Ho'ōla Post-Baccalaureate Program. Ten students are from the U.S. Mainland or Canada and one from Guam, reflecting the John A. Burns mission to provide medical education opportunities for the children of Hawai'i and the Pacific Islands.
- Seven of our 19 GME programs retain more than 80% of their program graduates who also completed their medical education at JABSOM: Family Medicine, Obstetrics-Gynecology, Complex Family Planning, Geriatrics, General Psychiatry, Addiction Psychiatry, Addiction Medicine, and Child and Adolescent Psychiatry. In Pediatrics, those who subspecialize after residency often return to Hawai'i. Internal Medicine is also steadily improving in retention or return of their graduates (these numbers include the internal medicine subspecialties, in addition to primary care). All GME programs are working to recruit residents who are more likely to practice in Hawai'i, but the National Resident Matching Program rules disallow direct recruitment or guaranteed placement, therefore our programs do not have full control over who is hired into the program. For those programs whose graduates continue in subspecialty fellowships on the continental U.S., those with Hawai'i ties do eventually return home, but it may be 10-15 years later depending on the specialty.
- Continued work is needed to develop more teachers of JABSOM students and residents throughout the State as further increases in medical student class size and residency (GME) positions will require additional faculty for both teaching and supervision. Graduates of our GME programs are being actively recruited to help fill this gap.

Additional barriers to physician retention that must be addressed

- High student loan burden combined with lower salaries and reimbursement rates (compared to other parts of the country) and the very high cost of living in Hawai'i may entice JABSOM graduates to the continental U.S. Our GME residents and fellows, including those who trained on the continental U.S., carry an average educational debt load of about $300,000. However, those who train at JABSOM (because 90% are State residents), have about half that debt and often live with their family during their training. This lower debt burden makes it more attractive for them to practice in Hawai'i.
- Rapid changes in the practice of medicine and reimbursement sway many young physicians away from primary care specialties and ambulatory practices in the communities where they are most needed. Local health systems and insurers need to work together to create attractive and meaningful jobs for JABSOM graduates and other Hawai'i-born physicians who have completed their schooling in the continental U.S. More group practices with staffing to provide team-based, high-quality care are needed, especially on the neighbor islands.
- The disturbing trend of UH JABSOM residents being named as parties in malpractice claims during training – when they were providing proper care while supervised by a fully licensed physician as a part of the resident's formal training program – has further limited our teaching hospitals' ability to fully fund GME and consider expanding residency positions in high-need specialties. Being named in a malpractice claim during training, even when the trainee is subsequently removed from the claim, has discouraged residents from accepting future jobs in Hawai'i.

GME Programs Outside of JABSOM

- In addition to the UH GME programs, Hawai'i Health Systems Corporation (HHSC) Hilo Medical Center has welcomed their seventh class of residents to the Hawai'i Island Family Medicine Residency Program. They are fully accredited by the ACGME. In 2020, they have 16 residents (an increase of 2 residents from the previous year) and hope to increase to a total of 18 residents total (6 graduates per year) over the next few years.
- Kaiser Permanente on O'ahu recruited their sixth class of five (5) residents to its Internal Medicine Residency Program and currently has 17 residents. Of note, the Kaiser Permanente School of Medicine in Pasadena, CA may be able to recruit medical students starting in July 2020. Recruitment of students from Hawai'i may lead to more Hawai'i-raised physicians choosing to train and practice on the mainland.
- Tripler Army Medical Center's (TAMC) 13 GME programs also continue to help serve the physician workforce needs of the military community. Some of those trained at TAMC eventually return to Hawai'i to practice in the military and then in the civilian community upon retirement. Of note, three recent graduates of TAMC GME programs have remained in Hawai'i to practice.

Funding GME is the largest barrier to UH JABSOM's ability to meet workforce needs

Declining federal and hospital funding of GME is a challenge for the state of Hawai'i because Hawai'i, unlike most states, does not currently directly appropriated state funds for GME. Hawai'i also does not have access to Federal Medicaid GME funding. For these reasons, a major focus of HMEC since 2016 has been to strengthen partnerships and examine possibilities for additional GME resources.

State level collaboration and coordination of GME efforts are needed

- To the extent possible, it is in Hawai'i's best interest to have the HMEC serve as a systems-level forum through which statewide strategic planning of GME programs can help find the optimal economies of scale to train and deploy graduating residents/fellows into the physician workforce.
- Currently, there is a strong collaboration with the Veterans Administration (VA) Pacific Islands Healthcare System. The VA representative on the HMEC provides important information

regarding current and anticipated VA needs and how the UH GME programs may help the VA meet future workforce needs, particularly outside of urban Honolulu on neighbor Hawaiian Islands, Guam, and American Samoa. Several GME programs train their residents and fellows in VA sites throughout Hawai‘i and the Pacific.

- As part of a long-standing collaboration with the Tripler Army Medical Center (TAMC), several UH residency and fellowship programs have a portion of their clinical rotations at TAMC. Similarly, several TAMC programs rotate their residents at The Queen's Medical Center and Kapi‘olani Medical Center for Women and Children. The only neonatology program in the U.S. Pacific is shared between UH and TAMC.
- In July 2020, the Family Medicine ambulatory teaching site was successfully relocated to the Pali Momi Outpatient Center, adjacent to the hospital campus. The program has been gradually expanded from 18 to 21 residents. A key, and as yet unfunded, component of the business plan and consortium model included securing State funding to permit growth of the Family Medicine residency as required to meet the primary care and family medicine shortages on O‘ahu, Maui, Kaua‘i, and Hawai‘i Island. Almost 85% of the UH FMRP graduates since 2007 currently practice in Hawai‘i, with many serving rural and underserved populations. Securing necessary resources for statewide expansion of the FMRP is critical because even with the Hawai‘i Island Family Medicine Program (providing an additional 4-6 graduates per year) the demand is much higher than the current supply of Family Medicine residency graduates. This remains a long-term goal, but active exploration of this will not be pursued until the health care system and economy sees a trend toward recovery.
- Stronger partnerships between local health systems and faculty practice plans will be needed to attract and retain academic faculty who are committed to working with diverse populations, teaching and conducting scholarly activity to reduce health disparities and improve health for all of Hawai‘i's populations. In particular, the University Health Partners practice supports UH faculty positions that are critical for both medical student education and residency/fellowship GME training.

DUTY (3): Recommend to the Legislature and UH Board of Regents (BOR) ways in which identified GME and other healthcare training programs can improve and change in order to effectively meet the HMEC assessment

The UH JABSOM's Institutional Program and its 19 UH GME training programs are fully accredited and in substantial compliance with accreditation requirements without any new citations. A previous citation related to faculty scholarship exists in one program and the other one citation in another program is related to first-time Board pass rate – and is well on its way to resolution. Programs undergo an annual review process each spring that considers health care demands that might impact their curricular experiences. The Annual Institutional Review meeting in September 2020 refined and continued the numerous activities used for continuous improvement of the Institution (across programs) and to support program-specific quality improvement efforts. Starting in late 2016, the UH JABSOM GME programs, their major partner training sites and key community stakeholders including the HMEC started a long-term strategic planning process aimed at identifying viable and sustainable strategies to develop a physician workforce that continues to advance the health and well-being of the people of Hawai‘i. The HMEC, JABSOM, and key stakeholders continue to work on these strategic areas:

1. Secure additional **resources** to maintain and expand GME programs. This includes funding for resident positions, supplemental educational activities and for additional faculty and clinical training sites (especially on the neighbor islands).
2. Develop a multi-pronged approach to improve physician **retention** in Hawai‘i. This includes ongoing activities before and during residency training, as well as a significant need to engage health systems, insurers, the State and other partners to make Hawai‘i a desirable place to practice – especially for new graduates with educational debt. Nationally, new graduates have an average of $300,000 in educational debt to address upon while completing their training.

3. Develop strategies, in partnership with the health systems and insurers, to address and **prevent physician burnout and to promote physician well-being**.
4. Expand **neighbor island** and telehealth training opportunities for residents and fellows. Numerous national studies prove that the best ways to attract and retain physicians in rural settings are to 'grow your own' and to provide clinical training that is embedded within community clinics and hospitals. Resources will be needed to develop clinical sites and faculty, as well as for resident housing and transportation. The current lack of these resources constrain most programs' ability to offer neighbor island rotations. HMEC recommendation #2 specifically addresses the need for core compensated faculty and educational space on the neighbor islands. Faculty who have dedicated administrative, teaching, faculty development and scholarly activity duties and expectations are needed to ensure the consistent and high-quality medical education that is required by the various accrediting bodies.
5. Incorporate more aspects of **population health** and **inter-professional education and training** into all GME programs, to better equip future physicians to practice in team-based, patient and population-centered clinical settings. This effort includes primary care-behavioral health integration.

DUTY (4): Work with other entities and state agencies, and in consultation with the Legislature and BOR, develop and implement a Plan to ensure the adequate funding of healthcare training programs in the State, with an emphasis on UH JABSOM GME programs

RECOMMENDATION #1

UH/HMEC recommends that the 2021 State Legislature and State Executive Branch continue to support and provide a State financial match to the Hawaii State Loan Repayment Program. Ideally, this match would be provided as a supplement to the annual Department of Health (DOH) budget with the explicit instruction for the DOH to annually transfer those funds to JABSOM as long as JABSOM oversees the health professional loan repayment program for Hawai'i - including coordination of the National Loan Repayment Program Federal match for Hawai'i.

RECOMMENDATION #2

UH/HMEC recommends that the 2021 State Legislature and State Executive Branch provide funding to support the JABSOM faculty and staff, as well as both the medical student and residency curricula. The curricula needs support in order to maintain existing medical student and resident rotations on the neighbor islands, and to maintain currently existing innovative programs which serve to meet the needs of underserved communities.

RECOMMENDATION #3

UH/HMEC recommends that the State Department of Human Services and other stakeholders develop a working group to explore the mechanisms and develop a plan to obtain future Federal Medicaid GME funding since many of the residency programs provide inpatient and ambulatory care for Medicaid populations.

- In FY2017, twenty-eight States and Washington DC made separate GME payments directly to teaching hospitals, managed care organizations, or to teaching programs under managed care contracts[2]. States do not separately report GME payments that are included in base payment rates to hospitals.

[2] Medicaid and CHIP Payment Access Commission. Issue Brief, June 2018, Table A-1, page 12-13.

- Strategies to also explore include, but are not limited to, alternative arrangements with health insurers, Delivery System Reform Incentive Payment Programs (DSRIP or DSRIP-like)[3] an all-payer GME financing models.

DUTY (5): Seek funding to implement the Plan from all public (county, state, and federal government) and private sources

- Federal and private funding to retain health providers through loan repayment programs was obtained in 2012. The 2017 Legislature and Governor Ige approved matching funds to increase the number of educational loan repayments offered through the Hawai'i State Loan Repayment Program. The program works to retain existing primary care and behavioral health providers through loan repayment which is contingent on a commitment to practice in a Health Professions Shortage Area in Hawai'i for two years after loan repayment. Efforts will continue to demonstrate the long-term effectiveness and to seek renewal of matching funds this year and for longer durations of time. (HMEC Recommendation #1)
- The Hawai'i/Pacific Basin Area Health Education Center (AHEC)'s three Federal grants support the "Pre-Health Career Core" program that establishes a pipeline for health careers. The program has already recruited more than 500 high school and college students interested in health careers. The program is funded for four years and covers health sciences, shadowing, mentoring, and research experiences, and Medical College Admissions Test preparation. These and other JABSOM pipeline programs target students of Native Hawaiian descent, as well as those public-school students from medically underserved areas, including the neighbor islands.
- Legislative funding to support the Primary care consortium training and thus expand Family Medicine residency training was sought in 2016 but was not released by the Governor.
- Work will be undertaken with key stakeholders to explore obtaining Federal Medicaid GME funding (HMEC Recommendation #3).

DUTY (6): Monitor and continue to improve the funding Plan

See recommendations under DUTY 4 and DUTY 5.

Monitoring the implementation and effectiveness of the plans to stabilize and grow GME in the shortage specialties will be done by UH JABSOM's Graduate Medical Education Committee (GMEC), with oversight by the Office of the Designated Institutional Official (DIO) and HMEC. A summary of the results shall be submitted to the Legislature in our annual HMEC report.

DUTY (7): Submit an annual report to the Legislature no later than twenty days before the convening of each regular Legislative session.

Please see this report to the legislature.

Respectfully submitted,

Jerris R. Hedges, M.D., M.S., M.M.M.
Professor & Dean and Chair of HMEC
Barry & Virginia Weinman - Endowed Chair
John A. Burns School of Medicine, University of Hawai'i at Mānoa

[3] Medicaid and CHIP Payment Access Commission. Issue Brief: Delivery System Reform Incentive Payment Programs. March 2018.

Part II. Summary

HMEC Recommendations to 2021 Legislature

RECOMMENDATION #1

UH/HMEC recommends that the 2021 State Legislature and State Executive Branch continue to support and provide a State financial match to the Hawaii State Loan Repayment Program. Ideally, this match would be provided as a supplement to the annual Department of Health (DOH) budget with the explicit instruction for the DOH to annually transfer those funds to JABSOM as long as JABSOM oversees the health professional loan repayment program for Hawai‘i - including coordination of the National Loan Repayment Program Federal match for Hawai‘i.

RECOMMENDATION #2

UH/HMEC recommends that the 2021 State Legislature and State Executive Branch provide funding to support the JABSOM faculty and staff, as well as both the medical student and residency curricula. The curricula needs support in order to maintain existing medical student and resident rotations on the neighbor islands, and to maintain currently existing innovative programs which serve to meet the needs of underserved communities.

RECOMMENDATION #3

UH/HMEC recommends that the State Department of Human Services and other stakeholders develop a working group to explore the mechanisms and develop a plan to obtain future Federal Medicaid GME funding since many of the residency programs provide inpatient and ambulatory care for Medicaid populations.

Part III. Appendix

Appendix A: State Statutes Related to HMEC

HRS excerpts below were downloaded on December 22, 2014 from the following sites:
HRS0304A-1701 Definitions
HRS0304A-1702 Graduate Medical Education Program
HRS0304A-1703 Medical Education Council
HRS0304A-1704 Council Duties
HRS0304A-1705 Council Powers

CHAPTER 304A
UNIVERSITY OF HAWAI'I SYSTEM

Part I. System Structure Section

Part IV. Divisions, Departments, and Programs

J. Medical Education Council
304A-1701 Definitions
304A-1702 Graduate medical education program
304A-1703 Medical education council
304A-1704 Council duties
304A-1705 Council powers

J. MEDICAL EDUCATION COUNCIL

[§304A-1701] Definitions. As used in this subpart:

- "Centers for Medicaid and Medicare Services" means the Centers for Medicaid and Medicare Services within the United States Department of Health and Human Services.
- "Council" means the medical education council created under section [304A-1703].
- "Graduate medical education" means that period of clinical training of a physician following receipt of the medical doctor degree and prior to the beginning of an independent practice of medicine.
- "Graduate medical education program" means a graduate medical education training program accredited by the American Council on Graduate Medical Education.
- "Healthcare training program" means a healthcare training program that is accredited by a nationally-recognized accrediting body. [L 2006, c 75, pt of §2]

[§304A-1702] Graduate Medical Education Program.

a) There is created a graduate medical education program to be administered by the medical education council in cooperation with the department of health.
b) The program shall be funded with moneys received for graduate medical education and deposited into the Hawai'i medical education special fund established under section [304A-2164].
c) All funding for the graduate medical education program shall be nonlapsing.
d) Program moneys shall only be expended if:
    1) Approved by the medical education council; and
    2) Used for graduate medical education in accordance with sections [304A-1704] and [304A-1705]. [L 2006, c 75, pt of §2]

[§304A-1703] Medical Education Council.

A. There is established within the University of Hawai'i, the medical education council consisting of the following thirteen members:
    1) The dean of the school of medicine at the University of Hawai'i;
    2) The dean of the school of nursing and dental hygiene at the University of Hawai'i;

3) The vice dean for academic affairs at the school of medicine who represents graduate medical education at the University of Hawai'i;
4) The director of health or the director's designated representative;
5) The director of the Cancer Research Center of Hawai'i; and
6) Eight persons to be appointed by the governor as follows:
    a. Three persons each of whom shall represent a different hospital at which accredited graduate medical education programs are conducted;
    b. Three persons each [of] whom represent the health professions community;
    c. One person who represents the federal healthcare sector; and
    d. One person from the general public.

B. Except as provided in subsection (a) (1), (2), (3), and (4), no two council members may be employed by or affiliated with the same:
1) Institution of higher education;
2) State agency outside of higher education; or
3) Private entity.

C. Terms of office of council members shall be as follows:
1) Except as provided in paragraph (2), the dean of the school of medicine, dean of the school of nursing and dental hygiene, vice dean for academic affairs of the school of medicine at the University of Hawai'i, and the director of health, or the director's designated representative, shall be permanent ex officio members of the council, and the remaining nonpermanent council members shall be appointed to four-year terms of office;
2) Notwithstanding paragraph (1), the governor at the time of the initial appointment shall reduce the terms of four nonpermanent council members to two years to ensure that approximately half of the nonpermanent council members are appointed every two years; and
3) If a vacancy occurs in the membership for any reason, the replacement shall be appointed by the governor for the unexpired term in the same manner as the original appointment was made.

D. The dean of the school of medicine at the University of Hawai'i shall chair the council. The council shall annually elect a vice chair from among the members of the council.

E. All council members shall have voting rights. A majority of the council members shall constitute a quorum. The action of a majority of a quorum shall be the action of the council.

F. Per diem and expenses incurred in the performance of official duties may be paid to a council member who:
    a. Is not a government employee; or
    b. Is a government employee, but does not receive salary, per diem, or expenses from the council member's employing unit for service to the council.

A council member may decline to receive per diem and expenses for service to the council. [L 2006, c 75, pt of §2]

[§304A-1704] Council Duties. The medical education council shall:
1) Conduct a comprehensive analysis of the healthcare workforce requirements of the State for the present and the future, focusing in particular on the State's need for physicians;
2) Conduct a comprehensive assessment of the State's healthcare training programs, focusing in particular on graduate medical education programs and their role in and ability to meet the healthcare workforce requirements identified by the council;
3) Recommend to the legislature and the board of regents changes in or additions to the healthcare training programs in the State identified by the council's assessment;
4) Work with other entities and state agencies as necessary, develop a plan to ensure the adequate funding of healthcare training programs in the State, with an emphasis on graduate medical education programs, and after consultation with the legislature and the board of regents, implement the plan. The plan shall specify the funding sources for healthcare training programs and establish the methodology for funding disbursement. Funds shall be expended for the types of costs normally associated with healthcare training programs, including but not limited to physician salaries and other

operating and administrative costs. The plan may include the submission of an application in accordance with federal law for a demonstration project to the Centers for Medicaid and Medicare Services, for the purpose of receiving and disbursing federal funds for direct and indirect graduate medical education expenses;

5) Seek funding from public sources, including state and federal government, and private sources to support the plan required in paragraph (4);
6) Monitor the implementation and effectiveness of the plan required in paragraph (4), making such modifications as may be required by future developments and changing needs and after consulting with the legislature and the board of regents, as appropriate; and
7) Submit a summary report to the legislature no later than twenty days before the convening of each regular session, of the expenditures of program moneys authorized by the council under this subpart. [L 2006, c 75, pt of §2]

[§304A-1705] Council Powers. The medical education council may:

1) Conduct surveys, with the assistance of the department of health and the department of commerce and consumer affairs, to assess and meet changing market and education needs;
2) Appoint advisory committees of broad representation on interdisciplinary clinical education, workforce mix planning and projections, funding mechanisms, and other topics as is necessary;
3) Use federal moneys for necessary administrative expenses to carry out its duties and powers as permitted by federal law;
4) Distribute program moneys in accordance with this subpart; provided that any expenditures authorized shall be for a public purpose and shall not be subject to chapters 42F, 103, 103D, and 103F;
5) Hire employees not subject to chapters 76 and 89 necessary to carry out its duties under this subpart; and
6) Adopt rules in accordance with chapter 91, necessary to carry out the purposes of this subpart. [L 2006, c 75, pt of §2]

Appendix B: Sample HMEC Meeting Agenda

Figure 2: Sample HMEC Meeting Agenda

AGENDA

1. Review & Approval of Minutes – Dr. Hedges
2. Report from HMEC Chair - Dr. Hedges
    a. Announcements/Discussion
        i. Impacts and adjustments due to COVID-19
        ii. Graduate Medical Education updates – Lee Buenconsejo-Lum
    b. Update on Legislative Strategies – Jerris Hedges and Cynthia Nakamura
3. Physician Workforce Data Updates & Synergies - Aimee Grace & Kelley Withy
    a. Preceptor Tax Credit Update
    b. Physician Workforce
    c. Federal Appropriations Update
4. HMEC Recommendations to propose to the 2021 Legislature - Lee Buenconsejo-Lum

2020 RECOMMENDATION #1
UH/HMEC recommends that the 2020 State Legislature and State Executive Branch continue to support and provide a State match to continue the Hawaii State Loan Repayment Program. Ideally, this match would be provided as a supplement to the annual Department of Health (DOH) budget with the explicit instruction for the DOH to annually transfer those funds to JABSOM as long as JABSOM oversees the health professional loan repayment program for Hawaii - including coordination of the National Loan Repayment Program Federal match.

2020 RECOMMENDATION #2
UH/HMEC recommends that the 2020 State Legislature and State Executive Branch support the expansion of JABSOM faculty and staff to provide satellite educational programs for year round undergraduate medical education on Hawai`i and Maui Islands which will allow expansion of the medical school class size with more neighbor island medical education, and will allow exploration of residency training expansion to these islands.

2020 RECOMMENDATION #3
UH/HMEC recommends that the 2020 State Department of Human Services and other stakeholders explore the mechanisms to obtain Federal Medicaid GME funding since many of the residency programs provide inpatient and ambulatory care for Medicaid populations.

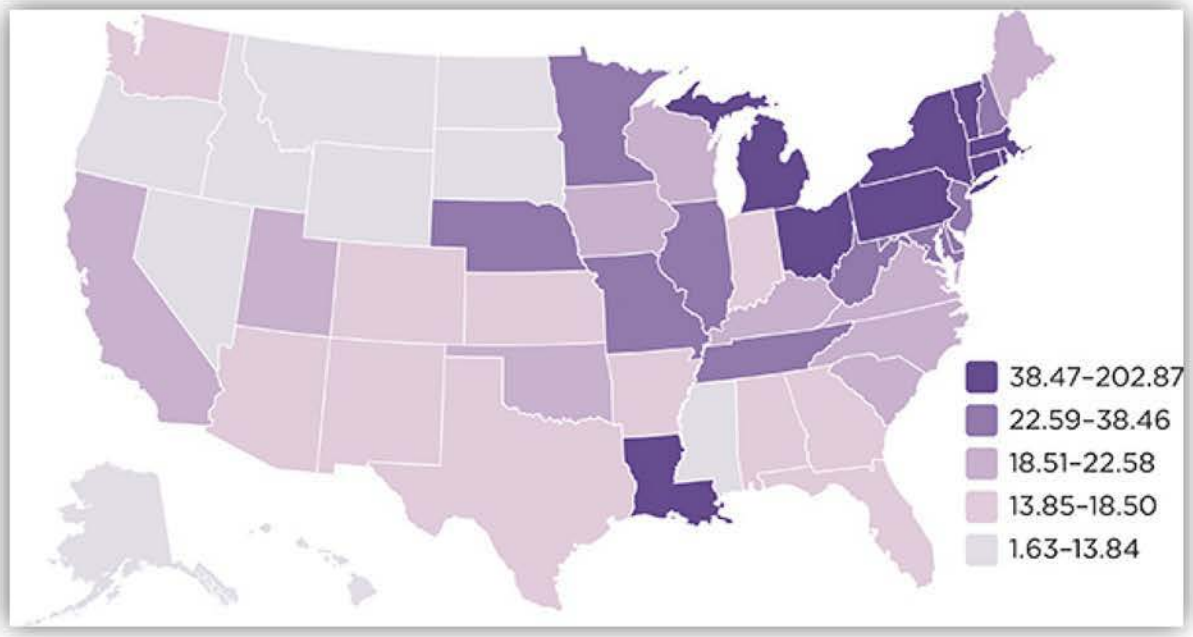
5. Additional Items - Next HMEC Meeting
6. Adjournment

Appendix C: Number of Medicare-funded GME training positions by State, per 100,000 populations, 2010

SOURCE: Institute of Medicine (IOM). 2014. *Graduate Medical Education That Meets the Nation's Health Needs.* Washington, DC: The National Academies Press. Figure 3-2. https://www.ncbi.nlm.nih.gov/books/NBK248024/figure/fig_3-2/?report=objectonly

Figure 3: Appendix C: Number of Medicare-funded GME training positions by State, per 100,000 populations, 2010

Note: Hawaii is in the lowest category (1.63-13.84 training positions per 100,000 population)



Appendix D: Rural or Underserved areas of Hawai'i where UH JABSOM Medical School or GME program graduates practice

Figure 4: Appendix D: Where JABSOM medical school/GME program graduates practice as of October 2017