



MEMORANDUM

Date: June 1, 2017

To: The Honorable Chair and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator 

Re: **Banner-University Medical Center South Named "Best of the Best"**

I am pleased to inform the Board of Supervisors that Banner Health awarded Banner-University Medical Center South its 2017 Best of the Best Award for midsized hospitals at its annual conference in Phoenix this month. The nonprofit company operates 28 hospitals in six states and annually recognizes excellence in its corporate system. Banner UMC-South was recognized for high performance in customer service, operations, learning and finances.

Banner Health took over the County's lease and the management of the hospital from University Healthcare in 2015 as part the merger of the two healthcare companies, which Banner-UMC Chief Executive Officer Tom Dickson made note of in the company's announcement last week.

"It is significant to note that Banner-UMC South and the Alvernon clinic, which have only been part of the Banner system for two years, are being recognized for providing a high level of clinical excellence, patient experience and financial performance. It is remarkable to achieve Best of the Best status in such a short period of time," said Dickson.

Banner Health and The University of Arizona's Colleges of Medicine and Public Health have been outstanding partners in the County's public health mission. The partnership with the UA and the successive university-affiliated healthcare companies now represented by Banner in restoring a full-service hospital on the south side of the metropolitan area has been an unqualified success. The attached August 12, 2016 memorandum and accompanying whitepaper provides a comprehensive history of this partnership.

Pima County congratulates the doctors, nurses, technicians and staff at Banner-UMC South for this well-deserved honor.

CHH/mjk

Attachment

c: Jan Leshar, Chief Deputy County Administrator
Dr. Francisco Garcia, Assistant County Administrator for Community and Health Services



MEMORANDUM

Date: August 12, 2016

To: The Honorable Chair and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

A handwritten signature in black ink, appearing to be "C.H. Huckelberry", is written over the printed name and title.

Re: **Arizona Board of Regents Health Affairs Committee Meeting Regarding The University of Arizona College of Medicine and Banner Health Affiliation Agreement**

The University of Arizona College of Medicine, College of Public Health and Banner University Medical Center have been and continue to be key partners with Pima County in public health and medical services.

As you may know, there has been quite an evolution in the delivery of medical services to the indigent, as well as the provision of community-wide public health services since the enactment of Arizona Health Care Cost Containment System. We have evolved from operating a full service hospital, formerly known as Kino Community Hospital, to leasing this facility which is now named Banner University Medical Center – South Campus (BUMC-South). This hospital was built in 1977 and replaced the former Pima County Hospital on Sixth Avenue that had been in place and operating since the early 1920s. In 2004, we leased the hospital to University Physicians, Inc., which transformed to University Healthcare, and now BUMC-South.

Our financial commitments in medical and other public health services have also evolved over the years. The last year the County operated Kino Community Hospital in 2004, the operating deficit was approximately \$34 million and we were only able to staff one medical specialty at the hospital, that being psychiatry. The presence of an Emergency Room provided emergency medical services for the community was deemed a vital service by emergency service providers.

Today, BUMC-South has undergone major changes, all of which are outlined in the attached whitepaper. Over the years, through our various agreements with University-affiliated agencies, the College of Medicine and others, Pima County has provided \$225 million in financial support, and the University medical system has provided extensive medical services to the community. Most importantly, the partnership has been able to attract nearly \$425 million in new federal funds for the benefit of local hospitals and physician practices.

The Honorable Chair and Members, Pima County Board of Supervisors
Re: **Arizona Board of Regents Health Affairs Committee Meeting Regarding The University
of Arizona College of Medicine and Banner Health Affiliation Agreement**
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Clearly, Pima County and The University of Arizona have successfully partnered in the provision of community-wide medical, public health and health services benefits.

CHH/anc

Attachment

c: Jan Leshar, Deputy County Administrator for Community and Health Services
Dr. Francisco Garcia, Director, Health Department

PIMA COUNTY'S PARTNERSHIP WITH THE UNIVERSITY OF ARIZONA IN THE AREAS OF PUBLIC HEALTH, MEDICAL SERVICES AND RESEARCH

INTRODUCTION

Pima County has a strong commitment to and support for the health and welfare of the residents of this community. The successful response to this commitment has been made possible by a strong partnership with The University of Arizona at what is commonly known as the Kino or South Campus, which encompasses the Herbert K. Abrams Public Health Center, the Behavioral Health Pavilion, the Crisis Response Center and what is today the Banner University Medical Center South Campus (BUMC-South). Whether providing general medical and healthcare, behavioral health and crisis services, educating a workforce, or bringing federal dollars to this community, quality service and care have been the result of the collaboration.

HISTORY OF THE UNIVERSITY OF ARIZONA/PIMA COUNTY COLLABORATION ON THE KINO/SOUTH CAMPUS

In 1974, Pima County voters approved bond funds to replace the County General Hospital with a new hospital on the south side of Ajo Way at Country Club Road. Kino Community Hospital, as operated by Pima County, struggled to provide comprehensive care and experienced continual operational losses due in large measure to the dramatic changes in indigent healthcare financing by the State's Medicaid program, as well as an increasingly complex commercial insurance and competitive environment on the commercial insurance and medical provider side. In order to ensure proper stewardship of County resources and provide quality healthcare in the area, since 2004, the County has contracted with The University of Arizona, either as University Physicians, Inc. or The University of Arizona Health Network (UAHN), to provide for the operations of the hospital. In late December 2014, the Arizona Board of Regents approved the merger of UAHN with Phoenix-based hospital corporation Banner Health; and Pima County subsequently approved the transfer of the lease of the hospital, which today operates as BUMC-South.

In 2011, two behavioral health facilities, including a new emergency department, became part of the unique Pima County, University of Arizona Medical Center partnership located at The University of Arizona South Campus complex. Using bond funds approved by Pima County voters in 2004 and 2006, a total of \$66 million provided for the partial replacement of existing psychiatric facilities and the construction of the Behavioral Health Pavilion and the Crisis Response Center.

Favorable market conditions driven by depressed construction costs during the bidding process for the construction of the 2004 and 2006 voter-approved bond projects resulted in a savings of nearly \$9 million, which allowed the Bond Advisory Committee (BAC) and the Board of Supervisors to examine other public health needs, including those identified by The University of Arizona. The BAC and Board of Supervisors approved an allocation of \$5.8 million to construct new physician clinic space for Family and Community Medicine (FCM) and a Diabetes Center at the Herbert K. Abrams Public Health Center (Abrams), as well as a

new gastroenterology (GI) laboratory on the west side of the hospital, along with a helipad to complement the new and expanded hospital emergency room. The helipad opened in 2011 with the Behavioral Health Pavilion and the GI lab; the FCM clinic and the Diabetes Center opened in 2012.

In 2014, The University of Arizona Collaboratory (UA Collaboratory) first occupied approximately 12,000 square feet within the Abrams Center, which is the west anchor to the South Campus complex. The UA Collaboratory was designed to function as a multidisciplinary collaborative space that capitalizes on the proximity to the community to bring population relevant research participation to a largely underserved community. The Collaboratory includes operational components of the Mel and Enid Zuckerman College of Public Health, the Department of Family and Community Medicine of the College of Medicine, and the Department of Nutritional Sciences of the College of Agriculture and Life Sciences.

And, finally, Pima County utilizes an Intergovernmental Agreement to leverage local dollars as a match, which allows the hospital to receive significant federal dollars to benefit our community.

INVESTMENT IN THE SOUTH CAMPUS

Support Provided by Voter Approved Bonds

The bond proposals that resulted in the expansion and development of state-of-the-art facilities on the South Campus had as their primary goal to better Pima County through not only the provision of quality medical and behavioral healthcare, but to allow for continued academic research. The proposals for the 2004 and 2006 bond election for health facilities included a package to help expand the Kino Campus to advance in medical healthcare provision, as well as enhance public health services, critical psychiatric care and expand services in a medically underserved area.

In 2004, Pima County voters approved \$25 million in support of a Public Health Center at the South Campus, adjacent to the hospital. This facility would help consolidate public health, medical and administrative services at one location. In the same election, there was a vote to expand the existing psychiatric facilities on the same campus. The bonds allocated for the expansion of psychiatric services; specifically, a psychiatric inpatient hospital (Behavioral Health Pavilion) to offset the pressure on the hospital, as most of the inpatient beds were located in the hospital in areas designated for medical and surgical procedures. Additionally, it was proposed to facilitate funding for psychiatric urgent care, as the Emergency Department was seeing overcrowding and a large volume of patients presenting there in behavioral health crisis. This bond package leveraged a multistory psychiatric inpatient facility (\$48 million) and a psychiatric urgent care (\$18 million).

Development of the two psychiatric facilities and access to the medical campus filled a significant gap in the delivery of mental healthcare in the community. The goals of the proposed psychiatric facilities were to decrease the pressure on overcrowded area emergency departments, decrease time spent by law enforcement dealing with those in crisis, improve communication between area hospitals, offer more focused services to those in crisis to reduce recidivism at the jail and emergency departments, and offer quality behavioral health services to those most vulnerable in our community.

These bond funds have advanced and supported development of a cohesive and state-of-the-art medical campus. This campus hosts a full-service medical/surgical campus, a three-story psychiatric inpatient facility, a psychiatric emergency facility, public health services, advanced research and teaching and training of the healthcare workforce. The investment in this campus promotes financial viability and sustainability of continuous health services and efficient and effective service delivery.

Annual General Fund Support

By 2004, Pima County was losing in excess of \$30 million per year operating the hospital. Community reliance on the hospital for services was limited to the emergency department and crisis or acute psychiatry. The emergency department evolved into meeting the community's behavioral health crisis needs, as well as providing detox services, since it was available 24 hours a day and provided the trained staff essential to address the community's most acute cases, many of whom were accompanied by law enforcement.

In Fiscal Year (FY) 2005, Pima County made the decision to lease the facility to an operator and has provided annual support for the operation of the hospital on the Kino Campus from the General Fund ever since. This support has been necessary to maintain and expand services on the campus and is paid in contracted installments based on the performance of the hospital via metrics and oversight, progress towards meeting community oriented goals, and participation in the Pima County vision for development of health services in the region.

Between FY 2005 and FY 2010, the County provided approximately \$25 million annually to help enhance the hospital operations on the South Campus. This support tapered to \$20 million in FY 2011 and then \$15 million annually for FYs 2012 through FY2017. The total investment through General Fund support of the hospital initiative is currently in excess of \$225 million, which has resulted in the receipt of an additional \$424.7 million in federal dollars. Had the County continued to support the hospital at a cost to taxpayers of approximately \$30 million per year, the total cost for the period would be \$360 million, which means the County saved approximately \$135 million and enhanced the quality of care.

Federal Matching Programs

As a local government match partner, Pima County has the ability to transfer money directly to the Arizona Health Care Cost Containment System (AHCCCS) via an intergovernmental agreement, which is then used as a local match for Centers for Medicare and Medicaid (CMS) funding at an approximate 2 to 1 ratio. CMS then provides an amount equal to the initial local match plus the 2 to 1 federal match to the identified eligible hospital.

Through this program, eligible hospitals with qualified local match partners enter into a public/private agreement to draw down these federal matching funds for its disproportionate share of indigent healthcare. In Arizona, under ARS 36-2903.01, qualifying health providers like the Banner University Hospitals can work with local, county, and tribal governments to recoup funding for those services through these federal programs.

This funding allows the hospital to continue to provide services while bringing new federal dollars into the local economy, supporting both the physical and fiscal health of the community. BUMC-South, and Banner University Medical Center – Tucson (BUMC-Tucson) are both participants in federal matching programs to enhance their operational capacity to further Graduate Medical Education (GME), offset indigent care and assist the hospitals in absorbing costs through Disproportionate Share Hospital Payments (DSH) and Safety Net Care Pool (SNCP), to continue to provide effective continuity of care for the residents of Pima County.

Graduate Medical Education (GME)

Working in partnership with Pima County, BUMC-South has been the recipient of new federal funds and GME and has greatly increased GME fellowships and has enhanced to the size and capacity of the medical workforce here in Pima County.

CMS is the main supporter for GME nationally. CMS provides funding through a federal matching program intended to offset some of the clinical education and expenses incurred by hospitals in the training and oversight of key residency programs as they provide necessary care for local patients. In FY 2009, Pima County developed and initiated their continued commitment to help support the furtherance of GME, particularly at Banner-University hospitals.

The Banner-University hospitals are both esteemed GME hospital training sites for internship, residency, fellowship and subspecialty programs. GME funds are procured and matched through the CMS federal matching program mechanism of a 2:1 match investment and distributed to participating hospitals. The Banner-University hospitals have participated in the GME program and its development and enhancement of hospital workforce since FY 2008 and both continue to expand the physician training network.

The investment in GME is critical, since where a physician trains is a key determinant of their choice of subsequent practice location. Of the physicians that have completed the GME program at our Banner-University hospitals, roughly 50 percent stay in the state and three quarters of these doctors are practicing in southern Arizona. According to FY 2016 data, of 168 graduates, 62, or 37 percent, have stayed to practice in Pima County.

Between FY 2008 and FY 2016, there has been a total local match of \$125,648,792 for enhancing and furthering the GME program within the area Banner-University hospitals, returning a total distribution of \$284,126,259 between both hospital campuses, with \$86,724,431 being specifically allocated to the GME program at BUMC-South between FY 2008 and FY 2016.

Disproportionate Share Hospital Payments (DSH)

The Disproportionate Share Hospital Payment (DSH) program provides supplementary income to thousands of American hospitals where Medicaid inpatients account for a large amount of the patient load. DSH is a federal matching initiative working in conjunction with local and state Medicaid programs to mitigate the impact of indigent care on eligible local hospitals.

Through the collaboration between Pima County and Banner-University Health Network, between FY 2010 and FY 2012, a total of \$6,048,979 was invested as a local match, returning \$11,631,659 to the two hospitals to offset indigent care and further necessary operations within the hospital network.

Safety Net Care Pool (SNCP)

SNCP was a one-time funding opportunity between FY 2012 and FY 2013 from CMS and open to all Arizona hospitals, with specific focus on hospitals in receipt DSH payments to offset indigent care, rural hospitals, hospitals fitting the Critical Area Hospital classification, and safety net hospitals.

SNCP funding allowed hospitals to enhance additional coverage for children in the Children's Health Insurance Program (CHIP), referred to as KidsCare in Arizona, and among the participating hospitals. SNCP funding allocations assured participating hospitals allocate a portion of their political subdivision dollars to enhance coverage for children. Additionally, it allowed funding to enhance the operational capacity and designation for Trauma Centers and Emergency Departments, specifically for Critical Access Hospitals and rural hospitals. This funding was a critical turning point for BUMC-South, allowing it to recover uncompensated care costs of providing healthcare to patients uninsured or underinsured, likewise accomplish Level 4 Trauma designation and continue to further emergency department operations for both the hospital and the Behavioral Health Pavilion.

This funding opportunity had a drastic impact on both Banner-University hospitals; infusing the hospitals with a total local match of \$68,757,790, drawing down a federal match of \$128,894,458 for BUMC-South, BUMC-Tucson and the Physicians Practice.

Total Federal Match Funding

Federal Matching programs have been an effective way to invest in the enhancement of the critical healthcare services provided by BUMC-South and BUMC-Tucson. Participation in these initiatives allows hospitals to stay fiscally solvent and continue to enhance their critical services to Pima County. These initiatives not only allow an infusion of necessary dollars to protect the hospitals, they assure an enhanced medical workforce that is critical to this community. Through Federal Match programs, BUMC-South has received \$105 million to enhance their operations, training programs and critical care, specifically in trauma and emergency services. The two Banner-University hospitals continue to partner with the County, which has contributed 52 percent of the local match funding to further the community commitment to expand access to care, a health community and expanded economic development.

**Table 1: Federal Match Funding for BUMC-South, BUMC-Tucson and Physicians Practice
 FY 2008 through FY 2014 (*GME data through FY 2016).**

	Local Match Provided by Pima County	Local Match Provided by UA	Total Local Match	New Federal Funds Distributed to BUMC-SC	New Federal Funds Distributed to BUMC-Tucson	Physician Practice	New Federal Funds Total
GME Initiative *	\$44,471,785	\$81,177,007	\$125,648,792	\$86,724,431	\$197,401,828		\$284,126,259
DSH Initiative	6,048,979	0	6,048,979	6,728,668	4,902,991		11,631,659
SNCP Initiative	41,524,730	27,233,060	68,757,790	31,457,565	77,476,570	\$19,960,321	128,894,456
Grand Total	\$92,045,494	\$108,410,067	\$200,455,561	\$124,910,664	\$279,781,389	\$19,960,321	\$424,652,374
Percentage	52	48	100	31	63	6	100

SUMMARY OF SERVICES

Service Utilization

The delivery of quality patient services at BUMC-South is the primary goal of Pima County's investment in the continued operations of the hospital initiative. Since the facility's inception, it had been hoped the hospital would provide a full array of medical and behavioral services for residents in the region, and this hope is now being realized. Key metrics for

hospital services and expanded public utilization of the South Campus facility since 2005 are summarized in Table 2 below.

Category	FY 2005	FY 2016	Change	% Change
Adjusted Patient Days	39,440	94,194	54,754	139
Total Average Daily Census	65	105	40	62
Total Clinic Visits	48,830	152,491	103,661	212
Total Emergency Dept. Visits	30,356	48,837	18,481	61
Total Surgical Procedures	662	2,997	2,335	353

The increase in clinic visits comes as a result of broad physician recruitment across a number of medical specialties supplemented by a continued commitment to family medicine. Quality improvement projects for the provider-based clinics are aimed at continuing to build the practice and focusing on a team care approach that views patients holistically, not just through the lens of a particular specialty. Team care is also represented in the establishment of the diabetes prevention and education center (DPEC). DPEC brings together doctors, pharmacists, nurses, educators and dietitians dedicated to improving diabetes control in the patient population through education, medical management and prioritization of patients. Averaging 60 to 70 visits per month in the first two years of operation, DPEC will help improve outcomes among diabetes patients in both the short- and long-term, while providing outreach in a community that is at high risk for this disease.

There has been a significant and continuing rise in service delivery and utilization at BUMC-South, primarily linked to increased medical/surgical care admissions. While FY 2016 did have a slight decrease in service from the peak in FY 2015, the growth since FY 2005 is dramatic. Overall hospital census figures indicate an average of 105 patients in hospital beds per day, a 62 percent increase from FY 2005. Clinic visits have more than tripled, evidence of the expansion of clinic services and the increased value of the facility to the region. The utilization of provider-based clinics and clinicians has had the expected impact of overall hospital use as reflected in the more than quadrupling in surgical procedures since FY 2005 and the large change (an increase of 139 percent) in adjusted patient days.

Patient Mix

Behavioral healthcare continues to be an important part of the service delivery at BUMC-South. This hospital serves as the hub for inpatient behavioral health care in Pima County and staff are continuing to identify opportunities to improve the quality of care. The development of the Behavioral Health Pavilion continues to improve efficiency in behavioral

healthcare delivery, identifying the most appropriate venue for patient services and minimizing unnecessary expenses to the patients and community.

However, BUMC-South must be a full-service hospital providing for the clinical and medical needs of the region. To that end, there has been a strong and continued commitment to expand medical services to provide for community residents. The census indicates the transformation of the facility from primarily behavioral healthcare to a fully mixed patient care hospital has been achieved. In FY 2005, the average daily census indicated 15 patients for medical or surgical care and 50 admitted for behavioral health, a 23 percent/77 percent distribution, heavily skewed to behavioral health patients. In FY 2016, that distribution is nearly balanced, with 48 percent of the patients presenting for medical or surgical needs and 52 percent admitted for behavioral healthcare.

There are several months of the year in which medical/surgical patients outnumber behavioral health patients, and FY 2015 was the first year in which medical/surgical patient numbers exceeded behavioral health. In the last two years, BUMC-South has opened an additional medical/surgical ward to allow for the continued growth of this sector of care. The regular growth in this sector over time shows that prolonged viability is achievable and that BUMC-South Campus is serving the needs of a broad spectrum of patients in Pima County.

INTEGRATION OF MEDICAL AND BEHAVIORAL HEALTH SYSTEMS

The State of Arizona has begun to shift from a recovery model to a full integrated care model and has built into their Regional Behavioral Health Authority (RBHA) contract deliverables that assure behavioral health treatment throughout the State is patient-focused and deals with the whole person. While the idea of holistic, integrated care is not new, we are just beginning to see requirements change that ensure both the medical and mental health issues of individuals are all addressed by practitioners rather than segregating mental health from other medical services. As such, our partners at Banner Health and The University of Arizona have and continue to work with community stakeholders to achieve integrated care for our community members that receive services in their facilities. The Crisis Response Center and Behavioral Health Pavilion, built with bond dollars, serve as the hub of the psychiatric crisis system in the community.

The Banner Health and University of Arizona attending physicians, residents and nurse practitioners serve as medical staff and psychiatric staff for both facilities. They play an integral role in the delivery of medical and psychiatric care to patients at both facilities.

There is also the positive impact to law enforcement to have the Crisis Response Center, Behavioral Health Pavilion and emergency department on the South Campus. What previously involved hours of wait time in emergency departments across the region, law enforcement now enjoys a less than 10-minute drop-off for psychiatric patients.

Pima County has prioritized the integration of medical and behavioral healthcare for the community, particularly on the South Campus. The facilities for psychiatric care on the South Campus have the advantage of being located proximate to medical services in the event a patient requires more intensive medical evaluation or stabilization of medical emergencies.

Behavioral Health Pavilion

The Behavioral Health Pavilion is a state-of-the-art psychiatric inpatient facility on the South Campus adjacent to the medical facility. This inpatient facility has significantly expanded the capacity for acute behavioral health service provision in the community. It is a secure facility with an emergency room that securely connects to the medical facility for secure transfer of patients in need of psychiatric care.

The Behavioral Health Pavilion is a three-story, 136,000-square foot facility with two, 24-bed Level 1 psychiatric units, staff and administration offices, outpatient services and a dedicated Arizona Superior Court Room for Title 36 civil commitment proceedings. The site also has eight dedicated law enforcement secure holding rooms and a secure emergency department to enhance care for psychiatric emergencies and offset the medical facility, as well as to promote secure transfer of patients moving from medical to the psychiatric facility.

This facility is the main psychiatric facility with which Pima County contracts for Title 36 Court Ordered Evaluation (COE) services. The staff of BUMC-SC are key partners in ensuring those who need to be hospitalized for psychiatric crisis against their will are safely and quickly treated to ensure they are stabilized and able to return to the community. The BHP cares for approximately 85 percent of the COE patient mix amongst all acute inpatient psychiatric care facilities. This level of care is integral to the support of comprehensive behavioral health and crisis care.

Crisis Response Center

The Crisis Response Center is a psychiatric urgent care center to complement and expand services to the existing psychiatric care facilities on the South Campus. The Center adheres to a "No Wrong Door" approach, with 24/7 access to services regardless of ability to pay, and it houses a psychiatric urgent care and a countywide crisis call center.

The psychiatric urgent care has the capacity to house adult short-term stays for up to 23 hours and a 15-bed acute unit for stays above 24 hours. Additionally, there is capacity at the Crisis Response Center for 10 children's beds for up to 23-hour stays. The acute urgent care component of the Center is integral in offsetting crisis situations where patients would previously present in the emergency department or in a criminal justice setting. The Crisis

Response Center has been integral in shifting the resources available to patients in a behavioral health crisis and is critical to ensure patient access to care and in needed continuity of both behavioral healthcare and medical care.

The Crisis Response Center utilizes part of the facility for a 24-hour countywide call center, receiving roughly 10,000 calls per month, resulting in 5,000 episodes of care. The call center is a central crisis hub for not only calls from the public, but law enforcement and 911 routing. The call center also deploys Crisis Mobile Action teams to assist law enforcement in crisis mitigation and the appropriate transfer of patients in acute behavioral health crisis. Roughly 100 calls a month are diverted to the Crisis Mobile Action teams for community crisis interventions.

The integration of medical and behavioral health services on this campus are integral to a community-wide crisis system that enhances access and continuity of care for the residents of Pima County. The campus' "No Wrong Door" approach means patients will be safely cared for and directed to the services they need; medical, behavioral health, or both in a timely and enhanced capacity. The integration of services is a best practice model of care to provide efficient and effective service delivery.

WORKFORCE TRAINING

Physician Training

A critical component of both the health of Pima County residents and successful economic development efforts is the availability of an adequate supply of a variety of physicians to meet healthcare needs. Numerous national and statewide studies highlight the critical need for a focused initiative to train a workforce in Pima County and Arizona that can provide health services needed today and in the future.

The 2011 State Physician Workforce Data Book published by the Association of American Medical Colleges ranked Arizona 43rd in the nation in active primary care physicians per 100,000 of population. Data provided by the Federal and State governments indicate Arizona's chronic shortage of primary care physicians is likely to worsen as the population grows and more individuals begin to receive medical care under the revised federal system.

Support of the Graduate Medical Education (GME) program, which compensates teaching hospitals for costs associated with operating GME programs or for the training of residents, is achieved through an innovative partnership between The University of Arizona, Banner University Medical Center and Pima County. This arrangement provides for the utilization of County General Funds as local match to generate new federal dollars to offset the physician training costs at BUMC-SC. The local match is sent to the Arizona Health Care Cost Containment System (AHCCCS), which reports the receipt of this money as State match to

the federal government and requests the new federal funds for the hospitals based on the federally approved match ratio of two to one (\$2 federal dollars for every \$1 in General Fund state match). Information about the dollars provided for GME and the matching funds generated is included in Table 1 above.

The GME program at the South Campus has expanded dramatically from 17 residents in FY 2009 to 112 residents in 2016. This activity speaks to the high standard of quality healthcare provided at this facility, since the residency accreditation process ensures that a robust mix of highly qualified faculty are on site to supervise the care of patients, as well as the training of physicians and medical students.

Additionally, there exists a well-documented relationship between GME programs physician retention in the communities providing this training. Development of residency programs and GME funding systems are cited as key initiatives to address physician shortages and retain doctors trained in the state. During the first five years of this GME partnership in Pima County, a total of 180 doctors completed the GME program at The University of Arizona and subsequently entered a practice in this state. This includes 32 physicians who graduated from the South Campus, of which 26 have stayed to practice in southern Arizona.

The GME partnerships are a critical program in our community. All of the residency programs have a focus on bringing much needed medical care to the rural areas of southern Arizona, and many residents complete rotations in medically underserved areas. The program provides for the continued recruitment and education of resident physicians in such critical areas as family medicine, internal medicine, neurology, psychiatry, ophthalmology and emergency medicine and attracts and trains the Pima County workforce.

Training of Allied Health Professionals

Workforce shortages are not limited to physicians. According to the Arizona Healthcare Workforce Data Center, Arizona is below the national average for registered nurses, licensed practical nurses, pharmacists, medical technicians, paramedics, occupational therapists, physical therapists and radiology technicians. Demand for direct care workers (including medical assistants, nursing assistants, home health aides and personal care attendants) exceeds that of other health personnel. Demand for these workers is expected to increase by 35 percent during the five-year period that ends in 2018, requiring 10 to 12 million new and replacement workers nationally.

Leadership of the South Campus hospital throughout the partnership history have recognized the need for workforce development; not only for physicians, nurses and pharmacists but for an array of allied health professionals. In addition to training physicians, the hospital has regularly hosted an array of other healthcare workforce training initiatives. Training partners at the South Campus hospital include The University of Arizona Colleges of Nursing,

Pharmacy and Public Health; Arizona State University; Pima Community College; and a variety of public and private schools and training institutions. Studies focus on nursing, nurse practitioner, pharmacy, patient care technicians, phlebotomists, medical technicians, physical therapy, medical coding and physician assistants.

Under the previous leadership of The University of Arizona Medical Center-South Campus (UAMC-South Campus), the facility was recognized as the largest inpatient psychiatric hospital setting, and the significant need for behavioral health technicians not only in the hospital but communitywide was addressed. UAMC-South Campus helped lead an initiative with Pima Community College, the Tucson Indian Center, Pima County OneStop, the former Regional Behavioral Health Authority and community providers on a Career Pathways Initiative grant from the US Department of Labor.

Two critical initiatives are designed to prime the pipeline of local minority and underrepresented students into health sciences careers. The Border Latino & American Indian Summer Exposure to Research is a cutting-edge, federally funded, 10-week, paid undergraduate research experience designed to help underrepresented students become competitive medical school, health professions and biosciences-focused graduate school applicants. Additionally, the highly innovative Pre-Medical Admissions Pathway allows for the early identification of promising and talented post-baccalaureate students providing a bridge year prior to entering full-time medical school training. Together these initiatives represent important investment in substantive efforts to increase the number and diversity of the local health services workforce with a goal of providing better care for the diverse citizens of Pima County.

The Collaboratory has become an important asset for the training of the next generation of public health researchers addressing scientific questions of national importance but that have particular relevance to the local community. Diverse junior faculty and graduate students from three different disciplines are engaged with community partners on a variety of topical interventions, including obesity prevention targeting Hispanic males, bone health, asthma and obesity prevention for low-income middle school students, tobacco cessation for working adults, dietary and physical activity enhancement for low-income populations, among other topics. Additional conversations are ongoing about siting the newly created Center for Border Health on this campus. These community responsive initiatives promise to have a profound and lasting impact on the population of Pima County.

The expansion of workforce development efforts made possible through Pima County's partnership with The University of Arizona is consistent with Pima County's Economic Development Plan. As detailed over the years in reports to the Board of Supervisors, the County is preparing to capitalize on the growing economic segments of aerospace/defense research and emerging employment centers for biosciences, medical services, science and technology. However, to significantly grow new, high-paying jobs in these segments, there

needs to be sufficient capacity to locate the new employers and necessary support services, including accessible healthcare services.

The South Campus facilities, strengthened by Pima County's partnership with The University of Arizona and Banner Health, serve as both a major employment center and a provider of health services in what can be considered the Tucson Technology Corridor. This campus not only makes healthcare more readily available in this high-stress area, it provides an opportunity for the development of high-wage employment activities and for the leveraging of the intellectual capacity of The University of Arizona.

CONCLUSION

Over a decade ago, Pima County recognized that in order to provide quality care to the people of this community, a strong partner was critical. The decision by the County to transition the licensed operation of the hospital and lease the facility to the University with a commitment of funding that has now totaled over \$225 million has resulted in significant economic benefits. The County has realized significant savings in annual operational costs and the community has had access to an expanded array of primary and specialty care, as well as preventative services and training programs for physicians, nurses, and other health and allied health professionals essential to meeting the existing and projected workforce shortage.