

**Quality and Productivity Commission  
31<sup>st</sup> Annual Productivity and Quality Awards Program  
"Celebrating Quality Service"**

**2017 APPLICATION**

Title of Project (Limited to 50 characters, including spaces, using Arial 12 point font):

**NAME OF PROJECT: HIRE ME, VIRTUALLY: DIGITAL INTERVIEW INNOVATION**

**DATE OF IMPLEMENTATION/ADOPTION:** APRIL 1, 2016  
(Must have been implemented at least one year - on or before July 1, 2016)

**PROJECT STATUS:**  X  Ongoing   One-time only

**HAS YOUR DEPARTMENT PREVIOUSLY SUBMITTED THIS PROJECT?**   Yes  X  No

**EXECUTIVE SUMMARY:** Describe the project in 15 lines or less using Arial 12 point font. State clearly and concisely what difference the project has made.

1 Interviewing for medical residency encompasses significant economic burden to both  
2 applicants and residency institutions. While the current system of in-person interviews  
3 is well validated, technological advances allow for web-based video conference (WBVC)  
4 interviews and virtual tours as an alternative at reduced cost to applicants and residency  
5 programs. In 2016, the Harbor-UCLA Medical Center Department of Anesthesiology  
6 utilized WBVC interviews along with a virtual program director's welcome and hospital  
7 tour for a portion of the residency program applicants. It was found there is similar  
8 satisfaction between applicants who chose a web-based interview and those who  
9 preferred a traditional interview. The WBVC application process proved to be a huge  
10 success in its first year, ultimately resulting in three matriculants into the department.  
11 This innovative methodology demonstrated significant cost savings for the department  
12 in its first year (approximately \$20,000), and has the potential to save the department up  
13 to \$90,000 annually in subsequent application cycles.  
14  
15

**BENEFITS TO THE COUNTY**

(1) ACTUAL/ESTIMATED ANNUAL COST AVOIDANCE	(2) ACTUAL/ESTIMATED ANNUAL COST SAVINGS	(3) ACTUAL/ESTIMATED ANNUAL REVENUE	(1) + (2) + (3) = TOTAL ANNUAL ACTUAL/ESTIMATED BENEFIT	SERVICE ENHANCEMENT PROJECT
\$	\$ 20,000.00	\$	\$ 20,000.00	<input type="checkbox"/>

**ANNUAL = 12 MONTHS ONLY**

<b>SUBMITTING DEPARTMENT NAME AND COMPLETE ADDRESS</b> Harbor-UCLA Medical Center, Department of Anesthesiology 1000 West Carson Street, Hospital Building 1 East, Box 10 Torrance, CA 90509		<b>TELEPHONE NUMBER</b> 310-222-3472
<b>PROGRAM MANAGER'S NAME</b> Dr. Clinton Kakazu, M.D.		<b>TELEPHONE NUMBER</b> 310-222-5067  <b>EMAIL</b> CKakazu@dhs.lacounty.gov
<b>PRODUCTIVITY MANAGER'S NAME AND SIGNATURE</b> <small>(PLEASE CALL (213) 893-0322 IF YOU DO NOT KNOW YOUR PRODUCTIVITY MANAGER'S NAME)</small> Gerardo Pinedo	<b>DATE</b> <i>7-3-17</i>	<b>TELEPHONE NUMBER</b> 213-240-7948  <b>EMAIL</b> gpinedo@dhs.lacounty.gov
<b>DEPARTMENT HEAD'S NAME AND SIGNATURE</b> Dr. Mitchell Katz	<b>DATE</b>	<b>TELEPHONE NUMBER</b>

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**1<sup>st</sup> FACT SHEET – LIMITED UP TO 3 PAGES ONLY:** Describe the **challenge(s), solution(s), and benefit(s)** of the project. What quality and/or productivity-related outcome(s) has the project achieved? Provide measures of success. Use Arial 12 point font.

**Challenges**

Interviewing candidates for a medical residency is an in-depth process requiring substantial investment of time and County resources. The medical residency interview process results in significant financial burden to both medical students and residency programs. As a County institution, the Harbor-UCLA Medical Center Department of Anesthesiology seeks premier applicants to the program while also considering our cost to recruit applicants. For the 2016 interview season, this department implemented web-based video conference (WBVC) technology and a virtual hospital tour as a means to interview candidates at reduced cost to the County while simultaneously attracting the best and brightest residents to provide care for the citizens of Los Angeles County.

For any institution that seeks to recruit the most talented students to their program, the extensive medical residency interview process is a challenge. On average, medical students apply to 36 programs, at significant cost to the applicant. Furthermore, these students must participate in as many program interviews as possible to be considered for matriculation. Due to the competitive nature of residency applications, programs must interview as many candidates as they can to ultimately obtain a select few residents who will eventually matriculate into their program. Thus, a residency program faces significant financial burden when interviewing numerous candidates. At Harbor-UCLA, between 90-100 applicants are interviewed for 10 positions being offered in the Department of Anesthesiology. The program chair, program director, and other faculty must schedule operating room time around interview schedules, presenting the department with a significant financial burden. Estimated recruitment cost per matriculant is \$14,000, a figure comprised of opportunity cost, administrative cost, hosting cost, etc. (Please see page 5 for detailed analysis of cost savings breakdown).

**Solution**

The solution to the cost-intensive interview season was to implement web-based video conference (WBVC) interviews for a subset of applicants via Skype and FaceTime. Applicants were divided into two groups: a traditional face-to-face interview group, and a group who was offered a WBVC interview. To keep the experience as standardized as possible, a virtual program director's welcome was sent via e-mail to applicants in both the WBVC and the face-to-face interview groups.

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Both the virtual information and the virtual tour were created utilizing a free, web-based application called Adobe Spark Video. Ultimately, 95 applicants in total were interviewed: 80 in the traditional face-to-face setting and 15 in a WBVC interview. Both groups were provided an exit survey at the end of their interview experience.

The survey reflected equal satisfaction between the two groups. Furthermore, whether an applicant opted for a traditional or a WBVC interview, that candidate had an equal likelihood of being ranked within each of the quartiles on our program’s final rank list of the 95 applicants. The rates of matriculation into the program were comparable for the two groups. Of the 15 WBVC applicants, two of them (13%) were eventual matriculants while eight of the 80 traditional applicants (10%) were eventual matriculants. Finally, the WBVC group had a zero percent cancellation rate, whereas the traditional group had a ten percent cancellation rate.

**Benefits**

The benefits of the implementation of the WBVC interviews were straightforward: the Harbor-UCLA Department of Anesthesiology was able to interview more candidates at a reduced cost to obtain the highest quality residents to serve the patients of Los Angeles County. At an estimated recruitment cost of \$14,000 per matriculant into a residency program, by selecting two matriculants from the WBVC interview group, the department achieved a conservative estimated savings of \$20,000 (full cost analysis will be discussed in the next section of this submission). Furthermore, the department plans on expanding the WBVC program in subsequent years to ultimately spend less money and time on face-to-face interviews while still matriculating the most highly-qualified candidates.

The WBVC program has been recognized by several entities as a viable and highly innovative modality for maximizing the efficiency of the medical residency interview process. The project was accepted and presented at the Annual Western Anesthesiology Resident Conference this spring in Portland, Oregon. Furthermore, the project was presented at the Annual Harbor-UCLA Medical Center Resident Research Day, where the project took second place overall. By expanding the scope of WBVC interviews in future application cycles, the program has the opportunity to harness significant savings for Los Angeles County while still retaining the most talented and highly qualified applicants to the Harbor-UCLA Department of Anesthesiology.

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**Linkage to the County Strategic Plan – 1 page only.** Which County Strategic Plan goal(s) does this project address? Explain how. Use Arial 12 point font.

The Digital Innovation for Virtual Program Interviews and Hospital Tours project addresses all three goals of the County Strategic Plan.

**Goal I: Make Investments that Transform Lives**

By aspiring to select the most professional and highly qualified applicants to Harbor-UCLA, the Anesthesiology Department will ultimately staff a highly capable and patient-oriented clinical team to provide Los Angeles County patients with the highest standard of medical care 24 hours a day, 365 days per year. Anesthesiologists are involved with the acute care of the sickest and most seriously injured patients, navigating them through difficult scenarios and starting the patient on the road to a comfortable recovery after surgery. Having high quality residents in this department is the backbone for providing 24/7 anesthesiology care at a Level 1 trauma center. Obtaining high quality residents is crucial in saving and transforming countless lives of patients who receive care at Harbor-UCLA Medical Center.

**Goal II: Foster Vibrant and Resilient Communities**

Los Angeles County has incredible diversity of its residents. As a Level 1 trauma center, Harbor-UCLA treats patients from all socioeconomic backgrounds and helps these patients in their time of need regardless of a patient's ability to pay for health care. While providing high-quality health care at affordable cost is no easy task, Harbor-UCLA excels at getting members of the community back on their feet and back to their community and their loved ones as quickly and efficiently as possible. Despite the many wonderful aspects of Los Angeles, it is the people of LA County that are our greatest asset. Helping Los Angeles County stay healthy and providing health care for the sickest and most injured patients is certainly a way to foster vibrant and resilient communities.

**Goal III: Realize Tomorrow's Government Today**

Tomorrow's government will rely on increasing technology to operate as a productive and efficient entity. The WBVC interview program harnesses technology to build upon a validated interview process in order to obtain new residents for Harbor-UCLA Medical Center. These matriculants will have the opportunity to grow into leaders within the medical profession and expand their role in serving the people of Los Angeles County.

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**COST AVOIDANCE, COST SAVINGS, AND REVENUE GENERATED (ESTIMATED BENEFITS TO THE COUNTY):** If you are claiming cost benefits, include a calculation on this page. Please indicate whether these benefits apply in total or on a per unit basis, e.g., per capita, per transaction, per case, etc. You must include an explanation of the County cost savings, cost avoidance or new revenue that matches the numbers in the box. Remember to keep your supporting documentation. Use Arial 12 point font

**Cost Avoidance:** Costs that are eliminated or not incurred as a result of program outcomes. Please indicate whether these are costs to the County or to other entities.

**Cost Savings:** A reduction or lessening of expenditures as a result of program outcomes. Please indicate whether these were expenditures by the County or by other entities.

**Revenue:** Increases in existing revenue streams or new revenue sources to the County as a result of program outcomes.

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The exact cost savings to the program is difficult to assess, as an itemized cost for each applicant and each interview cannot be calculated. However, by utilizing a cost analysis study by author Brummond, A et. al. entitled “Resident Recruitment Costs: A National Survey of Internal Medicine Program Directors”, published in the July 2013 American Journal of Medicine, we are able to assess with reasonable accuracy the cost per matriculant to the Harbor-UCLA Medical Center Department of Anesthesiology:

	Median Cost (\$)	Range (\$)
Program Director	42,400	27,500 – 59,375
Assoc Program Director	52,022	23,376 – 89,291
Chief Resident	12,206	4,346 – 25,450
Admin Staff	29,650	19,582 – 41,919
Chair Effort	369	0-845
Food	4,850	2,400 – 10,000
Supplies	600	300 – 1,000
<b>Total Cost Per Program</b>	<b>142,097</b>	<b>77,504 – 227,880</b>

By utilizing the median cost of roughly \$140,000 for recruitment of a class of matriculants, one can divide this cost by the number of matriculants into a program to find the estimated cost per matriculant. With ten matriculants at Harbor-UCLA Department of Anesthesiology, this yields an estimated recruitment cost of \$14,000 per matriculant. By obtaining two matriculants from the WBVC interviews, the department saved money on the above costs at a figure of \$14,000 x 2 matriculants for a total of \$28,000 savings. As some cost is still involved with WBVC interviews, albeit at a fraction of the cost of a traditional interview, we used conservative rounding in our model to assess a cost savings of \$10,000 per matriculant via the WBVC interview. This yielded an estimated cost savings of \$20,000 in the first year of this program.