

Quality and Productivity Commission
34th Annual Productivity and Quality Awards Program
“Leading with Excellence”

2021 APPLICATION

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

NAME OF PROJECT: Relieving the Burn: Pharmacists Improve Treatment

DATE OF IMPLEMENTATION/ADOPTION: 2/1/2020

(Must have been fully implemented for a minimum of at least one year - on or before July 1, 2020)

CHECK HERE IF THIS PROJECT IS BEING SUBMITTED FOR THE COVID-19 IMPACT AWARD ONLY. (Projects must be implemented on or before December 31, 2020. **Note:** Projects implemented less than one year ago will not be eligible for any other PQA awards. In addition, once a project is submitted, you cannot submit the same project for awards consideration in subsequent years).

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 Many people seek help in emergency departments (ED) for urinary tract infections
 2 (UTIs); but studies have found that antibiotics are used incorrectly about 30-40% of the
 3 time. One reason for this is that urine cultures taken during the ED visit can take several
 4 days to process. We noticed that the follow up on UTIs treated at our ED could be
 5 improved. In 2020, we started a new process where pharmacists reviewed all urine
 6 cultures from the ED that were processed as positive. We tracked whether changes
 7 were made to the antibiotics that were ordered and how long it took to make changes.
 8 Then we compared our old process with our new process. When pharmacists reviewed
 9 urine cultures, more appropriate changes were made to antibiotics. Pharmacists were
 10 able to follow-up about 1 day faster and patients took shorter courses of antibiotics,
 11 saving patients 64 days of antibiotics over a 2-month time frame. We were able to do
 12 this without causing patients to come back to the ED more often. On top of lowering the
 13 amount of antibiotics used for UTIs, we also taught better technique for taking urine
 14 samples, posted new signs in our restrooms, and made materials to help doctors in the
 15 ED pick the best antibiotic.

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
\$	\$	\$	\$	<input checked="" type="checkbox"/>

ANNUAL = 12 MONTHS ONLY

SUBMITTING DEPARTMENT NAME AND COMPLETE ADDRESS Olive View UCLA Medical Center Pharmacy 14445 Olive View Drive, Sylmar, CA 91342	TELEPHONE NUMBER 747-210-3059
PROGRAM MANAGER'S NAME Nadrine Balady-Bouziane Pharm.D. EMAIL nbalady@dhs.lacounty.gov Gregory Moran, MD Rana Entabi, Pharm.D. Sareen Zinzalian, Pharm.D.	TELEPHONE NUMBER 747-210-3059
PRODUCTIVITY MANAGER'S NAME AND SIGNATURE (PLEASE CALL (213) 893-0322 YOU DO NOT KNOW YOUR PRODUCTIVITY MANAGER'S NAME) Joselin Escobar Duran <i>Joselin Escobar</i>	TELEPHONE NUMBER 747-210-3001 EMAIL ioescobar@dhs.lacounty.gov
DEPARTMENT HEAD'S NAME AND SIGNATURE Christina Ghaly, M.D. <i>Christina Ghaly</i>	TELEPHONE NUMBER 213-288-8050

****ELECTRONIC, WET, OR SCANNED SIGNATURES ARE ACCEPTABLE****

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

BACKGROUND: CHALLENGE AND SOLUTION

Antimicrobial stewardship programs promote optimizing antimicrobial therapy to promote patient safety and reduce inappropriate antimicrobial use to decrease the spread of infections caused by resistant organisms. The Centers for Disease Control and Prevention (CDC) and The Joint Commission (TJC) encourage the development of antimicrobial stewardship programs. However, limited programs are seen in the outpatient setting.

At Olive View Medical Center (OVMC), the Emergency Department (ED) proposed for pharmacists to lead the urine culture follow-ups in order to allow nurse practitioners to attend to other needed patient care services.

As a result, the outpatient pharmacist-led antibiotic stewardship program was created.

BENEFITS: ASSESSMENT OF THE PROJECT

Groups and Time Frame

The pharmacist-led antibiotic stewardship program in the OVMC ED was fully implemented February 1, 2020. To assess the impact, we compared two groups:

Group 1: urine cultures reviewed by nurse practitioners (NP) from January 2019 to the end of January 2020

Group 2: urine cultures reviewed by pharmacists (RX) from February 2020 to the end of March 2020

Outcomes Assessed and Definitions

Time to intervention: The amount of time for the NP or pharmacist to take action on the urine culture result

Types of intervention: The type of action taken

Appropriate interventions: Whether the action was supported by scientific literature

ED/readmission: Patient returned to the OVMC ED for the same medical problem within 72 hours or patient was admitted to the hospital within 30 days of initial visit for related problems

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BENEFITS: RESULTS

Group 1 (NP): 494 patients; Group 2 (RX): 157 patients

Outcome	Results: Group 1 (NP) vs Group 2 (RX)	Benefits
Appropriate interventions	50.8% vs 75.3% (p<0.001)	<ul style="list-style-type: none"> • Pharmacists had higher percentage of appropriate antibiotic treatment made
Types of intervention	<p><i>Change in antimicrobial therapy</i></p> <p>81.8% vs 40.5% (p<0.004)</p> <p><i>Change in duration</i></p> <p>0% vs 40.5% (p<0.0001)</p>	<ul style="list-style-type: none"> • Pharmacists decreased unnecessary exposure to antibiotic therapy <ul style="list-style-type: none"> ○ 64 antibiotic days avoided over a 2-month period ○ Less changes of antibiotic therapy
Time to intervention	2.0±1.1 days vs 1.2±0.6 days (p<0.001)	Pharmacists acted 1 day faster
ED/readmission	There was no statistical difference in readmissions to ED within 72-hour (p>0.99) and 30-day readmissions (p=0.21) between groups	Despite less antibiotic exposure in the pharmacist group, patients did not need to seek additional health care

ADDITIONAL FINDINGS AND SOLUTIONS:

FINDING	SOLUTION
72% of urine samples collected were contaminated	<ul style="list-style-type: none"> • Pharmacist led nursing education provided on correct way to collect urine for lab analysis to minimize contamination • Bathroom signs were created for patient education
Initial antibiotic choices (drug and duration) made by providers were not optimal	Pharmacists created a flowchart highlighting optimal antibiotic choices to treat urinary tract infections
Review of urine culture tests only included positive results (bacteria found)	Added negative (no bacteria found) urine culture results to optimize antibiotic use and duration

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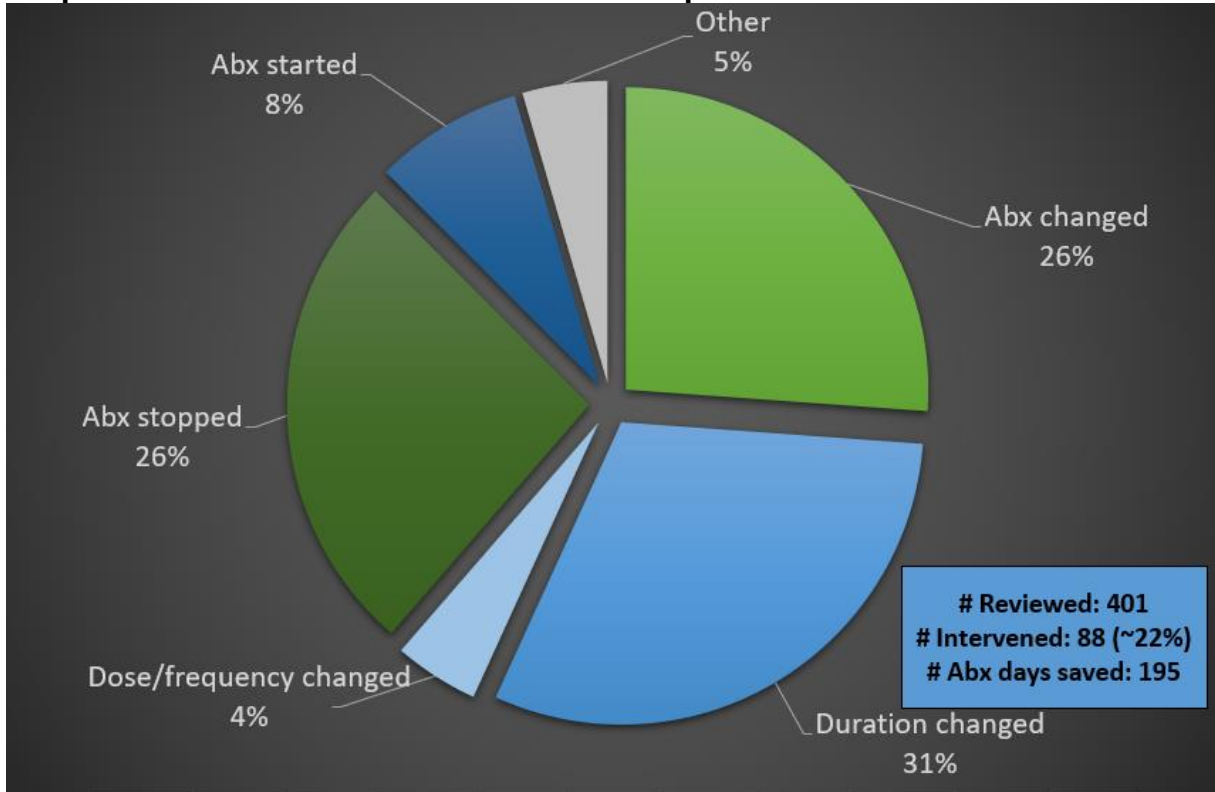
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CONTINUED BENEFITS OF PROJECT

Outpatient Pharmacist Antibiotic Stewardship Interventions: 1st Quarter 2021



The graph above summarizes the outcomes of the project for the first quarter of 2021. We now review both negative and positive urine culture results and saved 195 antibiotic days in a 90-day period.

In one calendar year, we estimate to save 791 antibiotic days with our project.

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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.

This project addresses Strategic Plan Goal 1: Make investments that transform lives

Supports Strategy I.2: Enhance Our Delivery of Comprehensive Interventions

This project improves quality of care provided to patients by the OVMC Emergency Department for urinary tract infection by delivering faster and optimal antimicrobial therapy treatment and duration.

Inappropriate antibiotic use can cause the bacteria in the local community to change and infections to become harder to treat with the usual antibiotics. **Therefore, reducing unnecessary use of antibiotics, can maintain our ability to treat infections within the 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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FOR COLLABORATING DEPARTMENTS ONLY

(For single department submissions, do not include this page)

DEPARTMENT NO. 2 NAME AND COMPLETE ADDRESS Olive View UCLA Medical Center Department of Emergency Medicine 14445 Olive View Drive, Sylmar, CA 91342	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE Joselin Escobar Duran EMAIL: _____	DEPARTMENT HEAD’S NAME AND SIGNATURE GREGORY MORAN EMAIL: _____
DEPARTMENT NO. 3 NAME AND COMPLETE ADDRESS	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE EMAIL: _____	DEPARTMENT HEAD’S NAME AND SIGNATURE EMAIL: _____
DEPARTMENT NO. 4 NAME AND COMPLETE ADDRESS	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE EMAIL: _____	DEPARTMENT HEAD’S NAME AND SIGNATURE EMAIL: _____
DEPARTMENT NO. 5 NAME AND COMPLETE ADDRESS	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE EMAIL: _____	DEPARTMENT HEAD’S NAME AND SIGNATURE EMAIL: _____
DEPARTMENT NO. 6 NAME AND COMPLETE ADDRESS	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE EMAIL: _____	DEPARTMENT HEAD’S NAME AND SIGNATURE EMAIL: _____
DEPARTMENT NO. 7 NAME AND COMPLETE ADDRESS	
PRODUCTIVITY MANAGER’S NAME AND SIGNATURE EMAIL: _____	DEPARTMENT HEAD’S NAME AND SIGNATURE EMAIL: _____