**Food and Nutrition Services Proposal to Serve Antibiotic-Free Poultry and Pork
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**Abstract**

Food and Nutrition Services is requesting an additional $69,000 to replace all of the poultry and pork served to patients at UWMC and to customers of the Plaza Café with products that were raised without the use of antibiotics.

Antibiotic resistance is now a significant concern in healthcare. This threat is increasing because of the widespread use of antibiotics, much of which is given needlessly and non-therapeutically to animals intended for food. As a department in our leading academic medical center, Food and Nutrition would like to take the lead in reducing overall antibiotic use by choosing food raised without the use of antibiotics. UWMC Food and Nutrition Services is well-positioned to make this change as our award-winning Wellness Program has already taken substantial steps to improve and promote health and sustainability of the menus offered through our Room Service Dining program and in the Plaza Café. Serving our community antibiotic-free poultry and pork is a high priority change that we will be able to undertake with some additional funding to our food budget.

**Full Report**

**Research: Why Antibiotic Resistance is a Concern for UWMC**

Antibiotic resistance is a growing threat in healthcare. According to the Center for Disease Control (CDC), at least 2 million people in the United States acquire serious antibiotic-resistant infections annually and more than 23,000 people die from these infections each year1. Antibiotic resistance directly impacts patient care in the hospital setting as an increasing number of hospital-acquired infections are now caused by highly resistant bacteria such as MRSA or multidrug-resistant Gram-negative bacteria2. Some bacteria, such as Enterobacteriaceae (CRE) are resistant to almost all antibiotics and almost half of all hospital patients who acquire CRE die from the infection1. According to the World Health Organization (WHO), new resistance mechanisms in bacteria have emerged to make the latest generation of antibiotics virtually ineffective2.

The threat is only getting worse. According to the CDC’s National Nosocomial Infections Surveillance survey, in the early 1990s, less than 0.5% of all strains of enterococci (VRE) were vancomycin-resistant. This number increased to 7.9% in 1993 and to 23% by 19983. Data also reflects increases in drug-resistant *Staphylococcus aureus*3, *Streptococcus pneumoniae*3, aerobic gram-negative bacilli3, MRSA4, *E. coli4*, and *Enterobacter* spp4.

Based on CDC reports, people infected with antimicrobial-resistant organisms are more likely to have longer and more expensive hospital stays5. When infections are resistant to first line antibiotics, health care providers must opt for alternative therapies which are often more expensive. Additionally, longer courses of illness and treatment only compound the cost of therapy. A 2008 study on hospital-acquired antibiotic resistant infections found that the additional medical costs related to their treatment ranged between $18.588 to $29,069 per patient and that they were associated with a 6.4 to 12.7-day increased length of stay6.

In the current economic climate, all departments are looking for ways to save costs and reduce length of stay with both short-term and long-term solutions. In the spirit of Patients are First, all departments are adapting their processes in order to do what is best for the health, well-being, and experience of the patient, while at the same time reducing costs. A change that impacts the trend of antibiotic resistance would most certainly result in a financial benefit for the hospital while implementing a best care practice for our patients.

**Research: Why the Meat We Serve Matters**

There are many factors that contribute to the increasing threat of antibiotic resistance. One significant contributor is routine non-therapeutic use of small doses of antibiotics given to animals raised for the purpose of food7. Livestock animals are given antibiotics regularly whether or not they have shown any signs of a disease requiring treatment. Instead, the medications are given to increase overall food production, reduce probability of disease transmission from infected livestock, and to reduce foodborne pathogens8.

According to the Federal Drug Administration (FDA), “bacteria and other microorganisms that cause infections are remarkably resilient and can develop ways to survive drugs meant to kill or weaken them.” When bacteria encounter antibiotics, they are given the opportunity to develop alternative survival mechanisms, thus increasing the risk for resistance, known as antibiotic resistance, antimicrobial resistance, or drug resistance9. Any antibiotic use can contribute to creating antibiotic resistant bacteria.

In 2011, 29.9 million pounds of antibiotics were sold for use on industrial farms while only 7.7 million pounds were sold in the same year to treat sick people10. Industrial farms use almost four times the antibiotics that are used to treat humans and consumers continue to enable this practice by purchasing meat produced by these farms.


Figure 1 12

Antibiotic resistance results from this practice not only because of the bulk of antibiotics being used but also because of the nature in which it is given. The small-dose, non-therapeutic administration of antibiotics is often inadequate to kill all of the bacteria. This leaves some organisms alive and available to transmit their survival characteristics to other bacteria11. Bacteria develop resistance by changing cell wall permeability to prevent antibiotics from entering, by changing cell structure, or by producing enzymes that destroy antibiotics11. Once bacteria have developed resistance mechanisms, they can easily join together to transfer DNA or provide their updated DNA to other bacteria through a variety of other means11. Bacteria multiply rapidly and resistance can spread quickly. Antibiotic resistant bacteria from farms can then travel via animal feces or skin through slaughter facilities and meat processing plants to reach human populations. Entrance points include contact with inadequately cooked contaminated meat, farm workers or meat processors who carry the bacteria, contaminated surface or ground water, contaminated crops, or air that is vented from animal housing or is released during animal transport11. The FDA, U.S. Department of Agriculture, and CDC all agree that “there is a definitive link between the use of antibiotics in food animal production and antibiotic-resistant infections in people10.”

Studies have found antibiotic resistant bacteria present in meat and poultry sold in grocery stores. Tests on supermarket meat samples performed by the National Antimicrobial Resistance Monitoring System in 2011 found significant amounts of antimicrobial resistant salmonella and Campylobacter12. Their analysis published last February indicates that antibiotic-resistant bacteria was found on 81% of the ground turkey, 69% of the pork, 55% of the ground beef, and 39% of the chicken that was tested12.

Antibiotic resistant bacteria have clearly made their way to humans from industrial farms and are increasing in number.

It is important for healthcare organizations to take a stand against raising livestock with poorly stewarded antibiotics. The health care sector represents 18 percent of the gross domestic product13 and has the purchasing power to make real industry change.

At the clinical level, practitioners are being urged to carefully steward antibiotics, decreasing inappropriate use and adhering to appropriate prescription guidelines14. On a smaller scale, these interventions in the clinical setting have been successful14. However, it is clear the problem of antibiotic resistance is multifactorial and the solution will involve participation from multiple sectors, including the food industry where the bulk of antibiotics are used nationally.

The University of Washington Medical Center has a diminishing opportunity to be a leader in the change of meat purchasing policies in healthcare. Earlier this year, the academic senate at the University of California at San Francisco unanimously passed a resolution to phase out purchasing meat produced with non therapeutic antibiotics and they are urging other UC campuses to follow suit15. Overlake Hospital adopted a purchasing policy that prioritizes antibiotic-free products16. Currently over 40% of the meat and poultry they purchase was raised without the use of antibiotics. Neither of these facilities has yet completely replaced poultry and pork with antibiotic-free products. UWMC still has the opportunity to lead this change.

**Action: What We Have Already Accomplished**

In 2007, the Food and Nutrition Services Department at the University of Washington Medical Center signed the Healthy Food in Health Care Pledge. By signing the pledge, we declared that we would provide our community with local, nutritious, and sustainable food17. We developed a departmental Wellness Program with the mission of improving the health of the community by linking evidence-based nutrition to the healthy foods we serve and to the education we provide staff, patients, and the community. Through this program we have already achieved many noteworthy goals: increasing healthy food options on our menus, increasing our local purchasing, reducing volume of meat purchased and served, decreasing sugar-sweetened beverages, increasing the availability of organic foods, and maintaining a monthly farmer’s market for the UWMC community. We have received awards and media attention for our progress18,19,20 and our goal is to continue to make improvements.

For our next improvement, we would like to provide our community with poultry and pork that has been raised without antibiotics. As research grows in the area of antibiotic resistance, we see this as a matter in which we as a leading academic medical center should no longer be silent. Instead, we should lead the charge toward change. To accomplish this objective, Food and Nutrition Services will need to budget an additional $69,000 per year for food costs.

Our department has already made significant changes in how we purchase meat. We signed the Balanced Menus Challenge21 through Healthcare Without Harm with the commitment of achieving a 20% reduction in our meat and poultry purchases. The reason for this change is threefold. The first is sustainability. By reducing our meat purchasing we are reducing global air and water contamination and climate change through methane and transportation emissions. The second is health. We are providing new and innovative healthy vegetarian options for our patients and customers. The third is cost. Meat is one of our most expensive food items. By reducing the amount that we purchase, we have more funds to invest in healthy, local, and sustainable foods.

In the course of our first year following the Balanced Menus Challenge, we reduced the amount of meat purchased for the Plaza Café by 4,875lbs-9,750lbs and for the Center Dining Room Service by over 4,000lbs. In addition to meat reduction, we have also decreased dessert portion sizes and made some product changes that have helped us save on ingredient costs. With these changes we’ve seen an annual savings of $29,620 through our room service program alone. We have invested this savings into the purchase of more organic, local, fresh, and nutritious foods for our patients and customers. Our investment is paying off with great customer feedback, improved employee satisfaction, and increased media attention for our wellness initiative.

We have done our due diligence with our menus and food purchasing to balance the costs of our many wellness improvements to date. However, a project of this magnitude requires additional funding that we are unable to offset on our own; we would appreciate the support of the Medical Center to make the change to antibiotic free meat.

**Need: How Much Change Will Cost**

We thoroughly reviewed our current poultry and pork products, assessing product type and total usage. Additionally, we communicated with multiple vendors about their availability of antibiotic free products and compared prices and quality. The details of this review and outcome are outlined in the addendum to this document. In total, changing all of our poultry and pork products to antibiotic free alternatives will cost an additional $69,000 per year.

**Support: UW Physicians Support Change**

While we were writing this proposal, Paul Pottinger, MD, DTM&H, contacted us on his own accord to ask if we would be willing to work with him to make UWMC antibiotic-free. Dr. Pottinger is an Associate Professor in Infectious Diseases Medicine, an Associate Director for the ID Fellowship Program, and Director of the Antimicrobial Stewardship Program. He states, “Antibiotic misuse is killing us--literally.  I have patients in the hospital who have infections with no good treatment options; they are losing their limbs and lives because of resistant germs, many of which were born on the farm.  Most antibiotics in America are given not to people, but to animals; not because they are sick, but because this allows big agribusiness to crowd them together and put on more weight with lower-quality feed.  It is a short-sighted mistake, and our patients are paying the price.  This practice simply must stop.  If the Europeans stopped doing this, we can too!  The problem is big, but change begins at home.

We have hospitals that are smoke-free, alcohol-free, drug-free. And yet the biggest threat to our future--antibiotic resistant bacteria--are still allowed to thrive in agriculture because we purchase antibiotic-treated produce.  Let's go antibiotic-free too.

UW Medicine is committed to being the highest center of healing and wellness in the land.  We serve the people of five states, one third of the land mass of America.  They deserve the safest, highest quality
nutrition available. Food that's not only good for them but good for our species and our future on the planet.  Let's take a stand.  This may seem like a small step, but it is essential.  From here, we change the world.”

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**Addendum: Cost of Change Details**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Product Description | Prod Number | Total Cases | Total Dollars | Av Price/Cs | Pack Size | Manufacturer | Harvestland Replacement | Pack Size | Total Cost | Cost Difference |
| Chicken Breast 5oz Boneless Raw Frozen | 2359917 | 122 | 3001.04 | 24.6 | 32/5oz | Tyson Foods |   | 3.64/lb | 4440.8 | 1439.76 |
| Chicken Breast 5oz Marinated Savory | 5159512 | 571 | 17727.08 | 31.05 | 32/5oz | Tyson Foods |   | 3.64/lb | 20784.4 | 3057.32 |
| Chicken Breast Double Lobe 7oz | 8943516 | 17 | 650.42 | 38.26 | 24/7oz | Koch Foods |   | 3.91/lb | 664.02 | 13.6 |
| Chicken Breast Fillet 4.5 oz Cooked | 2117364 | 379 | 18476.25 | 48.75 | 36/4.5oz | Tyson Foods |   | 5.29 | 20049.1 | 1572.85 |
| Chicken Breast RNDM Strip Cooked | 8169013 | 45 | 1766.7 | 39.26 | 10lb | Brakebush Bros Inc |   | 4.75 | 2137.5 | 370.8 |
| Chicken Diced 1/2" White Meat Cooked | 5656822 | 161 | 5229.63 | 32.48 | 10lb | Perdue Farms |   |   | 7647.5 | 2417.87 |
| Chicken Fryer Leg Cooked Pulled | 5032792 | 6 | 171.17 | 28.53 | 10lb | Tyson Foods |   |   |   |   |
| Chicken Popcorn H/S PPR BRD RTC | 6212104 | 49 | 1219.99 | 24.9 | 2/5lb | Tyson Foods |   | 2.56 | 1254.4 | 34.41 |
| Chicken Phily Flat Breast Raw | 5415799 | 62 | 2068.56 | 33.36 | 40/4oz | Advancepierre Foods |   |   |   |   |
| Chicken Pulled Dark Meat Seasoned Cooked | 925107 | 137 | 5257.03 | 38.37 | 2/5lb | Hormel Foods  |   |   | 4986.8 | -270.23 |
| Chicken Patty Breaded Breast Cooked Frozen | 9049933 | 135 | 3094.2 | 22.92 | 60/3.53oz | Tyson Foods |   | 4.43 | 5980.5 | 2886.3 |
| Chicken Strip Breast Julienne Cut | 7492929 | 259 | 7682.31 | 29.66 | 2/5lba | Unassigned |   | 4.75 ckd |   |   |
| Chicken Strip Breast Meat RNDM | 3856119 | 159 | 5861.21 | 36.86 | 4/2.5lb | Hormel Foods  |   | 4.75 | 7552.5 | 1691.29 |
| Chicken Strip Breast Meat RNDM | 7250772 | 51 | 1506.77 | 29.54 | 2/5lb | Perdue Farms |   | 4.75 | 2422.5 | 915.73 |
| Chicken Thigh Meat WD SKWR RTC | 3297363 | 56 | 1919.48 | 34.28 | 90/1.7oz | Tyson Foods |   |   |   |   |
| Chicken Tenderloin BRDD 2oz FC | 493775 | 430 | 18838.3 | 43.81 | 2/5lb | Tyson Foods |   |   |   |   |
| Chicken Wing 1&2JT JMB BUFLO | 5695606 | 4 | 139.52 | 34.88 | 2/5lb | Patuxent Farms |   |   |   |   |
| Chicken Wing 1JT Cooked 9-14 CT | 6373013 | 437 | 18795.37 | 43.01 | 12lb | Patuxent Farms |   |   | 21815.04 | 3019.67 |
|   |   |   |   |   |   |   |   |   | **total** | **17149.37** |