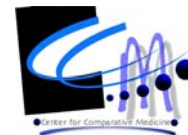


Maximizing Per Diem Revenues Through More Frequent Cage Census

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Introduction

Per diem charges for husbandry services is the most common means of recovering lab animal care costs in academic research institutions. Many institutions are using bar codes and scanning technology to more efficiently label and track cages for per diem billing as well as for animal health, breeding, and regulatory compliance purposes. As lab animal care becomes more sophisticated and expensive while federal funding of biomedical research declines in real dollars, maximizing cost recovery through per diem revenues becomes even more important. In large academic biomedical research institutions such as ours where mice may be taken to laboratories for sophisticated evaluation and then returned to a central vivarium, the temporary absence of mouse cages may result in reduced census in the vivarium on those days even though animal care costs continue to be incurred. Therefore, we wished to determine if more frequent census taking was likely to track total cages in use (and their costs) more accurately.



Figure 1

Table 1. Comparison of 3X versus 5X Census/Week

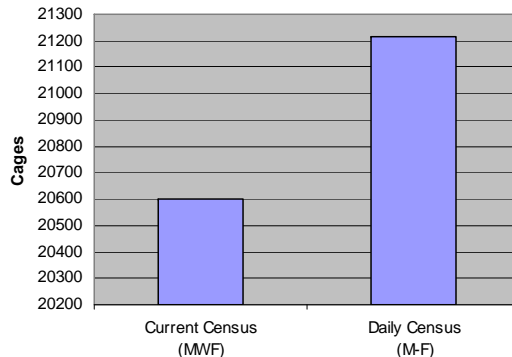
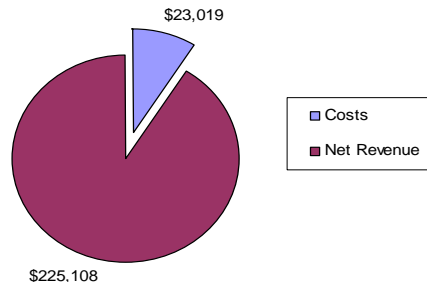


Table 2. Added Revenue vs. Added Labor Costs for 5X vs. 3X Census/Week



Materials and Methods

Rodent cage census was captured three times a week on Mondays, Wednesdays, and Fridays by scanning cage label bar codes with an SPT-1800 Palm Pilot (Symbol Technologies, Inc., Holtsville, NY; Figure 1). This device was loaded with proprietary vivarium management software (Bioware®, Digital Paradigms, Inc.). Cage census was expanded to five days a week (Monday-Friday) for four weeks to determine if additional data collection on Tuesdays and Thursdays would translate into additional revenues that would not be offset by the added labor costs.

Results

Performing census five instead of three days per week increased average daily census from 20,600 to 21,218 mouse cages (Table 1). This represented a 3% increase in monthly per diem revenues, translating to \$248,127 in additional yearly revenues at the institutional per diem rate of \$1.10 per mouse cage (for a complete sterilized static or ventilated microisolator setup with either automatic or bottled drinking water). Conducting cage census an additional two days per week required approximately 1,082 more labor hours per year since bar code scanning for census averaged 34 cages per minute. There is no additional labor hours for processing the collected data. At an average hourly animal technician labor rate (including fringe benefits) of \$21.27, this represented additional labor costs of \$23,019 per year, resulting in annual net revenues of an additional \$225,108 (Table 2), or a roughly 900% return on additional labor costs.