HEALTHWAY MEDICAL EXECUTIVE SUMMARY

Haskayne School of Business, University of Calgary
OPMA 415: Operations Management; L02

Case 3

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Introduction: This executive summary discusses the calculated recommendation for Healthway Medical (HM) calculating the use of 300 beds, and the hiring of 111 care staff for a net revenue of $51,847.88. With this recommendation, all three requirements are fulfilled while maximizing profit for the corporation.

Problem Description: HM can become the service provider for a nursing home with 300 beds. Their goal is to determine a 30-day net revenue in light of the various operating expenses, costs of goods and services and salaries of staff. The first key decision is the number of beds allocated per RAF CAT (category) and subsidy level. The restrictions on this decision will be in the form of priority. Non-subsidized CAT IV have a maximum of 30 beds available, with CAT III and II having a max of 15 each. CAT IV subsidized beds will have a max of 40 and a min of 15 beds. CAT III beds will have a max of 25 and min of 10 beds. CAT II beds will have a max of 20 and min of 5 beds. Bed allocation will, in turn, determine the 30-day bill charges, which is a driving factor of revenue. The second critical decision, determining staff cost, is the number of care staff hired per RAF category. This decision has to be in accordance with staffing ratios; one staff per 1.67 CAT IV beds, one staff per 3.33 CAT III beds and one staff per 6.67 CAT II beds. As the required care for each category increases, the salaries of each category also change. Solving the two mentioned decisions in light of their restrictions will allow us to choose our goal of maximized profit.

Solution Approach: The first step in the solution approach is determining how many priorities there are, based on RAF categories and levels of subsidy. As we determined 18 priorities in total, we then calculated the *Total Bill* for each, using the formula given in the case. Next, we defined the minimum and maximum bed allocation for each patient's priority in the same table. A second table was created for Excel's solver; designed for the viewer to see the bed allocations determined for each priority is within the minimum and maximum given in the case. We then determined the number of care staff needed. This was achieved by summing the number of beds allocated in each RAF Category and dividing the totals by the associated staffing ratios with respect to each RAF category. We added an integer constraint to *Bed Allocation* and *Number of Care Staff Hired* to ensure solver generated whole numbers. Finally, net revenue was calculated by subtracting the 30-day salaries of the 111 care staff, *Cost of Goods and Services*, and *Operating Expenses*. The bed allocations reflect a distribution that is most profitable with respect to revenue of each patient type and the associated costs for their care.

Recommendations: In order to increase net profits, HM needs to increase revenue and/or reduce costs. To increase revenue HM can allocate more beds to the higher priority sections such as RAF 4. For example in RAF 4, only the minimum allocation is being met, leaving room for more than 20 beds; as compared to RAF 2 where the maximum quantity is being met and the revenue per bed is substantially lower. By having the current staff handle a few extra patients, the staff costs would drop significantly, increasing net profit. For example, if we reduce the quantity of the care staff by 10 per section (ex. RAF 4 - from 64 to 54), our net profit grows to a substantial $114,877.98 compared to a mere $51,877.98, more than doubling our revenue. HM is capable of reducing staff while still upholding quality standards by assigning the care staff schedules and routes in a way that optimizes their time and energy through easily accessible resource stations and convenient transitions.