Report to the Managing Director of Pronurse, analysis of alternative options.

Executive Summary

- The original budget Break-even sales are $400,000, has 54.5% margin of safety, has an operating profit of $216,000 and a ROCE of 18%. Pronurse is unhappy with the original budget's profitability and ROCE - indicating that they are willing to exchange security for a higher return.

- Option 1 budget break-even is $496,967.37, has a 49.8% margin of safety, has an operating profit of $252,000 and a ROCE of 21%. The increase in break-even and margin of safety seems feasible for Pronurse, in exchange Pronurse would expect to earn a greater return on profit and ROCE - assuming that volume does not decrease significantly with an increase in price.

- Option 2 budget break-even is $491,111.11, has a 52.5% margin of safety, has a operating profit of $244,300 and a ROCE of 19.7%. The increase in break-even and margin of safety seems feasible for Pronurse especially as Option 2 appears to provide more security than Option 1 in terms of break-even and margin of safety. However these figures are made based on the assumption that the advertising campaign will increase sales volume by 17.5% (this will achieve a return lower than that of option 1)

- There are limitations to our analysis as the results have been made using estimated figures. We have performed a sensitivity analysis to increase the reliability of the information provided in this report however when making a decision Pronurse should also take non financial information into consideration.

- To meet the ROCE of option 1 (21%), the advertising campaign must increase sales by $189,778 from the original budget of $880,000. This will be significantly challenging especially as there is only $41,000 being invested into the advertising campaign

- It is recommended that Pronurse choses option 1 as not only does it meet the requirement of increasing profit and ROCE, the effects of this option tends to be more long term and stable than that of option 2 as it concentrates more on improving Pronurses services which would be valuable to the company in the long term.

Breakeven and Margin of Safety

The original budget break-even is $400,000 and the margin of safety of $480,000 which is 54.5% of budgeted sales.
Option 1 budget break-even is $496,967.37, this is higher as although sales increase by 12.5% there is an increase in fixed salary costs of $74000. Option 1 has a margin of safety of $493,032.63 which is 49.8% of budgeted sales.
Option 2 budget break-even is $491,111.11, this is higher as although sales volume increase by $17.5% there is an increase in variable cost of 17.5% and an additional fixed advertising expenditure of $410000. Option 2 has a margin of safety of $542,888.89 which is 52.5% of budgeted sales.

The original break-even $400,000, is $96,967.37 lower than option 1 and $91,111.11 lower than option 2.
Additionally the original margin of safety 54.5%, is 4.7% higher than option 1 and 2% higher than option 2.
This suggest that using the original method would mean that Pronurse is more likely to meet its financial obligations and make a profit as using the original method Pronurse would need to sell less units (nursing hours) to cover its fixed cost.

Profit and ROCE

The original budget profit is $216,000 and the ROCE is 18% - this is considered to be unacceptable by Pronurse.
Option 1 budget profit is $252,000 and the ROCE is 21% assuming sale volumes do not decrease due to an increase in price of 12.5%
Option 2 budget profit is $244,300 and the ROCE is 19.7% assuming sale volumes increase by 17.5% with additional advertising

Option 1 budgeted profit $252,000, is $7700 higher than Option 2 budgeted profit and $36000 higher than the original budgeted profit.
Option 1 ROCE 21%, is 1.3% higher than Option 2 ROCE and 4% higher than the original budget ROCE.
If Pronurse wants to increase profit levels, Option 1 Profit and ROCE is most favourable in terms of profitability when compared to returns from the original budget and option 2. This is because after fixed and variable cost have been paid Option 1 yields the greatest returns in terms of profit and ROCE.

Sensitivity analysis

The budget outcome of option 1 is dependent on the factor that sales volume would not decrease as a result of an increase in price with improved service quality. However this factor is influenced by a consumer's preference and value - some consumer may hold price at a higher value than quality - hence we need to account for a potential decrease in sales volume or a lower increase in price. For example if the 12.5% increase in price decrease sales volume by 5% then Pronurse would instead expect a profit of $226700 and a ROCE of 18.9%

The budget outcome of option 2 depends on a sales volume increase of 17.5% after a $41000 investment into advertising cost. This may be an unrealistic estimation as unless Pronurse did not have any advertising in the past an advertising campaign is unlikely to attract such a significant volume of sales - additionally this volume is unsustainable as consumers would lose interest in the advertising campaign over time. In our sensitivity analysis we should recalculate the increase in sales volume by adjusting it to reflect a lower increase in sales volume for example if the sales volume increased by 12.5% instead of 17.5% Pronurse would expect a profit of $224500 and a ROCE of 18.1%

Other considerations

Option 1: When hiring an account manager Pronurse may incur additionally expenses to obtain a suitable candidate e.g interview or training processes

Option 2: With additional sales volume Pronurse may need to increase its production capacity to meet additional demand which may result in increase cost e.g hiring process for additional nurses, overtime for manager/admin team.

A calculation of by how much sales revenues must increase (above original budget level) to achieve a ROCE of 21% if Pronurse does undertake option 2 (advertising).

Profit=1240000*0.21
Profit=260,400
Revenue=(FC+profit)/contribution margin
Revenue=(481400)/0.45
Revenue=1,069,778

To achieve a ROCE of 21% option 2 must earn $1,069,778 which is $189,778 greater than the budgeted sales of $880000, this may be challenging to achieve using a $41000 advertising campaign, hence it is unlikely that option 2 would produce a similar ROCE to option 1

limitations of analysis

The limitation of the CVP analysis is that it's assumptions are too simplistic, as it assumes that all of Pronurse cost can be separated in to fixed and variable elements and that the relationship between units of nursing hours and cost are a linear function. This isn't likely to hold true to all levels of outputs as additionally nursing hours may result in unexpected cost such as rising levels of fixed cost (e.g overtime worked by managers).

However the expected increase in volume induced by option 1 and 2 (0% and 17.5%) are unlikely to be significant enough to require additional fixed cost - assuming Pronurse has spare capacity. Hence regardless of the simplistic assumptions made we can assume that the CVP analysis applied to this report should be within the relevant range of production - thus it is valid.

Conclusion

In terms of profitability, option 1 is the most appealing option as compared to the Option 2 and the original budget it has the highest returns with profit and ROCE however this return is dependent on the assumption that consumers value quality of service over price (which is usually the case with service businesses), while it may have a higher breakeven and margin of safety than option 2 and the original budget it seems to be relatively feasible - especially as based on Florence's statement on risk Pronurse is willing to adopt more risk for higher returns.

Option 2 while having a lower breakeven and margin of safety (indicating more security) than option 1, Option 2 has a lower return on profits and ROCE when compared to Option 1 - additionally these return is based on the assumption that Pronurse would be able to increase sale volumes by 17.5% (or 21.5% to attain the same ROCE as option 1) with additional advertising. To rely on these estimates we would need further evidence to support that the advertising campaign would have such a significant effect on sales volume.

Based on these justifications it is recommended that Pronurse adopts Option 1 - especially as it is likely to yield the greatest return and is the most stable option.

	Original Budget	Option 1 Account Manager Price increase 12.5%	Option 1 Sensitivity Volume decrease 5%	Option 2 Advertising Volume increase by 17.5%	Option 2 Sensitivity Volume increase by 12.5%
Sales ($)	880,000	990,000	940,500	1,034,000	990,000
Variable cost ($)	484,000	484,000	459,800	568,700	544,500
Contribution ($)	396,000	506,000	480,700	465,300	445,500
Contribution Margin ($)	45%	51.11%	51.11%	45%	45%
Fixed Cost ($)	180,000	254,000	254,000	221,000	221,000

Profit ($)	216,000	252,000	226,700	244,300	224,500
Break even sales ($)	400,000	496,967.37	496,967.37	491,111.11	491,111.11
Margin of safety:					
In sales ($)	480,000	493,032.63	443,532.63	542,888.89	498,888.89
As % of budgeted sales	54.5%	49.8%	47.2%	52.5%	50.4%
Capital Employed ($)	1,200,000	1,200,000	1,200,000	1,240,000	1,240,000
ROCE	18.0%	21%	18.9%	19.7%	18.1%