



WELLINGTON FREE AMBULANCE

kia ora te tangata

Understanding paramedic staff requirements

The Issue

Personnel costs are one of Wellington Free Ambulance's (WFA) major costs, making up to 90% of their overall expenses. WFA wanted to more fully understand the key drivers of this cost, and so the purpose of this research was to provide a model that allows WFA to improve investigation and tracking on the impact of various factors, with a focus on paramedic staff.

The mix and volume of paramedic staff are key cost drivers. Each month, paramedics of various qualifications (including volunteers) are scheduled onto a roster, and can be expected to cost a certain amount. As in any organisation, the planned schedule usually changes, and this brings with it changes in cost.

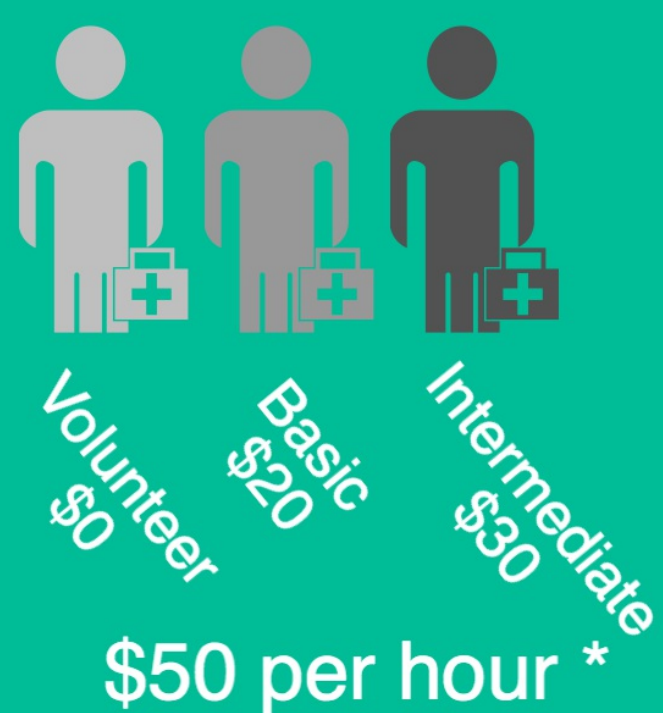
Other factors that were accounted for were:

- rostered leave pay
- sick pay
- volunteer pay (a single payment per shift)
- training pay
- allowances (mentoring, broken meals, night shifts)

The starting point

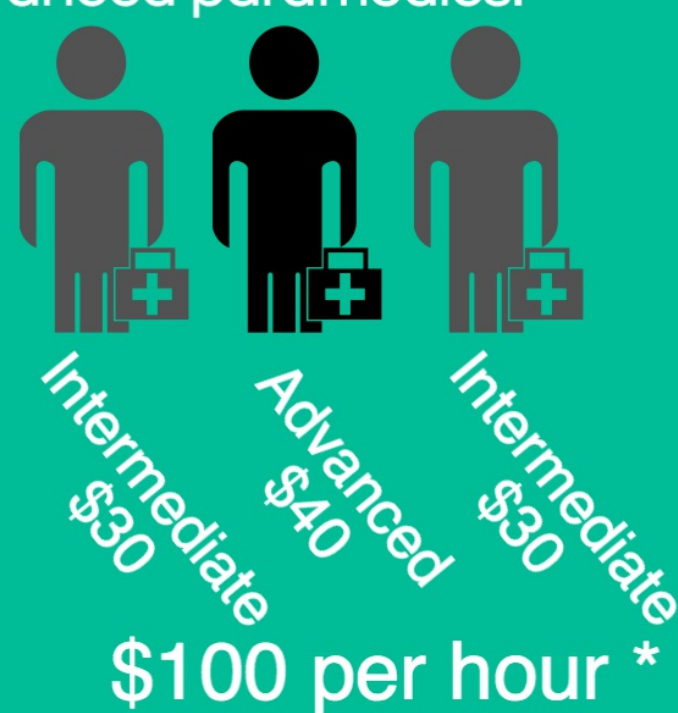
roster vs reality

Today WFA expected that they would have this qualification mix, with the following hourly rates:



* Numbers are not indicative of real wages

But their volunteer and basic paramedics could not make it in, so WFA had to replace them with available intermediate and advanced paramedics.



Here we see the essence of the impact that the mix can have on WFA's costs. With a volume of over 130 paramedics, these costs quickly become a challenge to track and understand.

Two major challenges existed for this project.

1. The roster system was undergoing redevelopment that would mean a change in the roster schedule output.

This meant that the models developed needed to be flexible for use with the new outputs.

2. There was a significant lack of digitally accessible data for tracking changes in costs.

This was negotiated by first manually entering data to produce a functioning model. This was then set up as a template ready to receive data once it becomes available.

The Challenges

The Outputs

Three main outputs were produced as a result of this research project.

1. A model that examines the paramedic roster and produces an expected cost

2. A model template ready to examine data recorded each day and produce a breakdown of the individual cost factors

3. A detailed guide to the creation and maintenance of these two models

The benefit of conducting this research alongside roster system redevelopment was the opportunity to identify and inform important variables to be included in the new system.

This thereby contributed to ensuring further ability to use data for improved financial insight using the above models.

Additional Benefit

Mix

The Factors

Volume

A number of interviews were conducted across the organisation in order to understand the flow of information through WFA. This involved interviewing employees at the executive and managerial levels as well as the operational level, including paramedics themselves.

The Method

The complexity of the organisation combined with the intricacies of how it recorded this information meant that this was a process that continued throughout the project.

With this information, work began on developing models to:

1. Establish an expected cost for a given roster.
2. Calculate rostered leave pay.
3. Examine the contributions of the various factors in final cost figures.

Microsoft Excel was chosen for model development, as this was versatile software readily available and in use at WFA. More importantly, it was software that was familiar to the WFA employees that would be using the models after the completion of the project.



=IF (E3=0, COUNTIFS (Z3:EZ3, "*"N*", Z3:EZ3, "<>Ln", Z3:EZ3, "<>NOT"), 0) =IF (E3=0, COUNTIFS (Z3:EZ3, "*"D*", Z3:EZ3, "<>Ld", Z3:EZ3, "<>DOT", Z3:EZ3, "<>DL", Z3:EZ3, "<>DOM"), 0)
=W3+V3+U3+T3+ ((S3*2.25)*D3)+ ((R3*1.5)*D3)+ ((Q3*1.5)*D3)+ (O3*D3)+ (N3*D3)+ (M3*D3)+IFERROR ((L3*13)* (VLOOKUP (B3, [pr.xlsx]pr!\$F\$10:\$P\$400, 11, FALSE))), 0)+IFERROR ((K3*11)* (VLOOKUP (B3, [pr.xlsx]pr!\$F\$10:\$P\$400, 11, FALSE))), 0)
code examples