# A review of The National Burn Centre referral patterns

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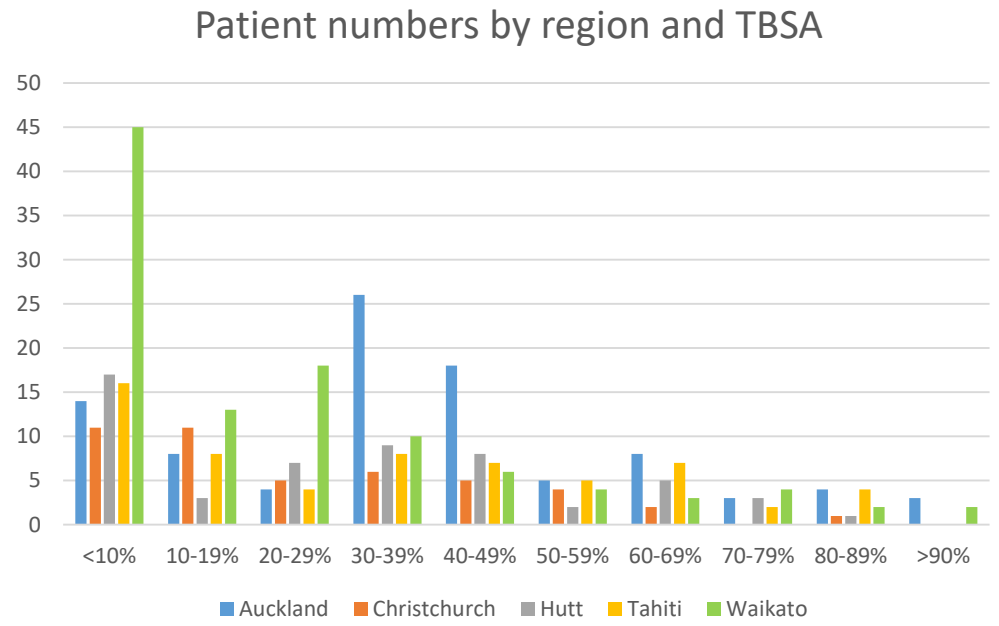
## Background

The National Burn Centre (TNBC) at Middlemore Hospital in Auckland, New Zealand opened in 2006. Its role is to provide care for the most severely burn-injured patients from around the country. In addition, it also treats severe burn patients transferred from Tahiti according to a government agreement.

## Methods

The first 10 years of TNBC activity from 2006 - 2016 was reviewed using data gathered from the burn database at Middlemore Hospital.

The focus was acute patients deemed 'TNBC' patients based on referral criteria (Table 1.). Data was analysed to assess referral region and patient demographics.




## Results

Over this period there were 3398 burn admissions to Middlemore Hospital. Of these 361 fulfilled TNBC referral criteria. Further data is shown in Table 2.

## Conclusions

- 56% of patients were transferred from the 'local' region (Auckland and Waikato) while fewer patients were transferred from the units located farther away.
- 50% of patients had an injury less than the referral criteria of 30% TBSA.
- There were a disproportionate number of patients with burns <10% TBSA transferred from the Waikato region.
- The median age of patients from Auckland was significantly higher (P=0.001, Students T-test).
- The median length of stay was slightly higher in the patients from Auckland and Tahiti as patients referred from other regional units were transferred back once their acute surgery was complete.

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| Burn size >30% TBSA |
| Significant inhalation injury |
| Full thickness burns of special areas (hands, feet, face, perineum) |
| Significant chemical / electrical burns |
| Any burn felt better managed at TNBC |

Table 1. TNBC referral criteria

| | Total patients (n=361) | Auckland (n=93, 26%) | Waikato (n=107, 30%) | Hutt (n=55, 15%) | Christchurch (n=45, 12%) | Tahiti (n=61, 17%) |
|---|---|---|---|---|---|---|
| **Male sex** | 233 (65%) | 68 (73%) | 62 (58%) | 34 (62%) | 30 (67%) | 39 (64%) |
| **Ethnicity** | European 47% / Maori 29% | European 52% / Maori 30% | European 49% / Maori 41% | European 49% / Maori 42% | European 76% / Maori 18% | Pacific islander 70% |
| **Median age** | 25 years (2m - 93y) | 33 years (10m - 87y) | 21 years (2m - 93y) | 23 years (8m - 85y) | 22 years (1y - 76y) | 25 years (6m - 76y) |
| **Median LOS** | 19 days (1 - 324) | 26 days (1 - 324) | 15 days (1 - 219) | 17 days (1 - 158) | 19 days (1 - 83) | 22 days (1 - 116) |

Table 2. Patient demographics

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