138 RELATIVE RISK OF HEARING LOSS: COMPARISON OF HEARING THRESHOLDS IN ROYAL AUSTRALIAN AIR FORCE PERSONNEL TO THE ISO 7029:2000 NORMATIVE DATA

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Objectives We sought to quantify the RR of hearing loss of a population of Australian Air Force personnel compared to an otologically normal population (International Standards Organization in ISO 7029:2000).

Methods Hearing thresholds between the frequencies of 500–8000 Hz were assessed in 1452 personnel using pure-tone audiometry. Quantile regression models were used to estimate percentiles of hearing thresholds in the study population and the probabilities of a 20 dB or greater hearing threshold. These probabilities together with those for the normative population were used to calculate the RR for each frequency and at specified ages.

Results At all eight frequencies measured, the study population differed from the expected hearing thresholds based on the ISO-7029 normative medians. The RR of a 20 dB or greater hearing loss is greater than 10.0 for men under the age of 40, at frequencies less than 8000 kH, with the lowest frequencies having the highest relative risks.

Conclusions This study demonstrated the use of quantile regression models to calculate RR of hearing loss and found that Australian Air Force personnel are at risk of experiencing high levels of hearing loss.