Determining Optimal Shift Patterns and Staffing Levels

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The conference session is intended to generate multi-centre discussion to evaluate what current staffing and shift patterns are used in emergency veterinary hospitals across Australia. We will identify if there are common challenges in our workplaces and discuss approaches that different centres have used to address them.

Staffing emergency veterinary hospitals requires consideration of numerous factors, primarily:

- Ensuring patient safety and wellbeing, and providing optimal veterinary care
- Ensuring staff wellbeing, maximising staff retention and minimising staff burnout
- Minimising costs and generating profit

1. Patient factors

1.1 Staffing numbers

Hayes et al. (2020) described patient:technician ratios above 4.0 were associated with a significantly increased risk of a major error (OR 2.53; 95% CI 1.84-3.54, p <0.001) Major errors were defined as: unanticipated arrest or death; patient endangerment through IV line, arterial catheter, chest tube or other invasive device mismanagement, or errors in drug calculation/administration. For each additional patient a technician cared for, the risk of a major error increased by 11%.

1.2 Patient acuity

Hayes et al. (2020) identified that each increase in total unit acute physiologic and laboratory evaluation (APPLE) score increased the major error risk by 0.5%. When cumulative $APPLE_{fast}$ scores increased above 73, the major error incident rate ratio was 1.71 (95%CI, 1.30-2.25, p <0.001)

1.3 Experience

Hayes et al. (2020) identified that the odds of a major error decreased by 2% for each year increase in total technician years of ICU work experience.

2. Staff factors

Burnout is defined by the World Health Organisation as a syndrome diagnosed in individuals with feelings of exhaustion or energy depletion, cynicism or negativity pertaining to work, or reduced professional accomplishment.

Holowaychuk et al. (2023) conducted a survey of 1204 veterinary emergency care providers (technicians and veterinarians) working more than 20 hours per week to evaluate their

burnout symptoms as measured by emotional exhaustion (EE), depersonalisation (DP), and personal achievement (PA) scores across six domains of workplace satisfaction (workload, control, community, reward, fairness, values). Veterinary emergency care providers had significantly lower PA and higher EE and DP scores than their human emergency healthcare worker counterparts, suggesting higher burnout symptoms.

Similarly, Hayes et al (2019) identified significantly higher burnout symptoms in a survey of 344 veterinary technicians. In this study, EE and PA scores were compared to shift duration in the context of available support and the expectation to perform janitorial tasks. Increasing hours worked per shift were associated with increased EE and decreased PA, but this effect was minimised by having available support, being able to provide exceptional care, and having a less than daily expectation to perform janitorial tasks.

Higher rates of medical errors were associated with lower resilience scores. Technicians with higher burnout scores were more likely to consider leaving the profession and cited compensation and working conditions as bigger factors for considering these changes.

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