OVERTIME ANALYSIS OF VETERINARY NURSES

Clinic & Emergency

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Veterinary Nurse Overtime Study

Contents

Introduction 3
Data overview 4
Data Cleaning and preparation 5
Patterns and trends 6
Solutions and Recommendations 11
Limitations 12
Summary 13

INTRODUCTION

This report analyses overtime among veterinary nurses working in the Clinic and Emergency departments. The goal was to identify when overtime occurs most often and what patterns might explain it.

The data was provided by a department manager who wanted a clearer overview of her team's overtime situation. Using Excel, the information was organised and visualised to highlight key trends and potential problem areas.

DATA OVERVIEW

This report is based on overtime data from October 2024 to June 2025, provided directly by the client. It only includes data from the nurses working within the client's area of responsibility, specifically the Emergency and Clinic departments. In a few cases, these nurses also appear in other areas, such as Reception, however, those shifts are not the main focus here, as they all fall outside the client's responsibility.

Each row represents a logged shift with overtime and includes information on date, department, shift type, nurse, veterinarian, overtime and occasional comments. A more detailed description of the dataset is shown in Table 1 below.

Column Name	**Description**	**Sample Value**
Date	The date where overtime occurred.	01-Oct
Weekday	The weekday name, automatically generated from *Date*.	Tuesday
Year	Extracted automatically from *Date*.	2024
Department	The employee's role during that shift, selected from a list.	Emergency
Shift	Indicates whether the nurse worked a morning (8-17) or evening (12-21) shift, selected from a list.	Morning
Nurse	The nurse who logged overtime.	Nurse 6
Vet	The veterinarian the nurse was assisting during the shift.	Vet 3
Comment	Notes about the overtime or shift.	Short lunch break
Overtime (min)	Overtime in minutes, just as recorded.	19
Overtime (h)	Same overtime converted into hours.	0.32

Table 1

DATA CLEANING AND PREPARATION

The dataset was first reviewed for any errors or inconsistencies. None were found; however, some missing values were resolved with the client. There were a few cases where nurses weren't assigned to a veterinarian, so N/A was entered.

Everything in the dataset was translated from Swedish to English, and categories such as positions, shifts, and weekdays were written in a consistent format.

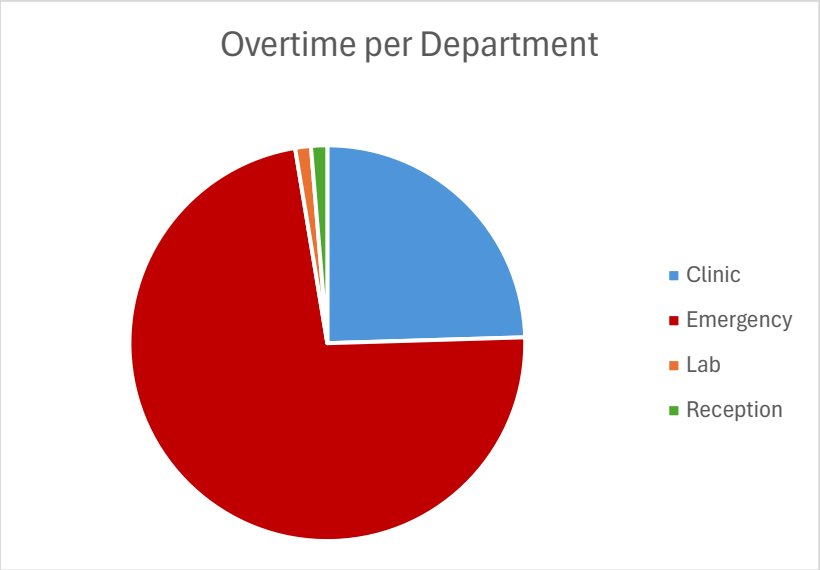
Double shifts were initially considered as a separate category, but only two cases with double shifts were found. These outliers were therefore excluded. This could be explored further if more data becomes available in the future.

For privacy, staff names were replaced with neutral IDs (ex. *Vet 1, Nurse 1*). The client received a separate list linking the IDs to the original names.

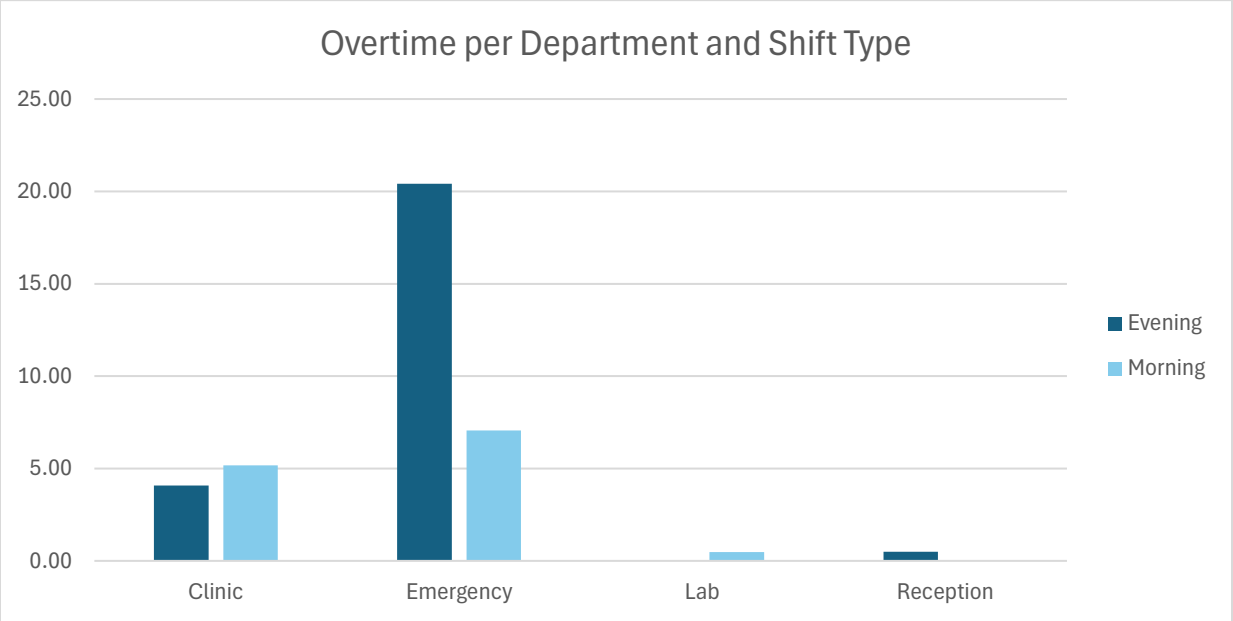
Finally, overtime minutes were converted into hours to simplify analysis.

Correlation and regression were considered but not applied. Nominal categories (ex. position or shift) have no order, so turning them into numbers would give misleading results. The analysis therefore focuses on descriptive patterns instead.

PATTERNS AND TRENDS

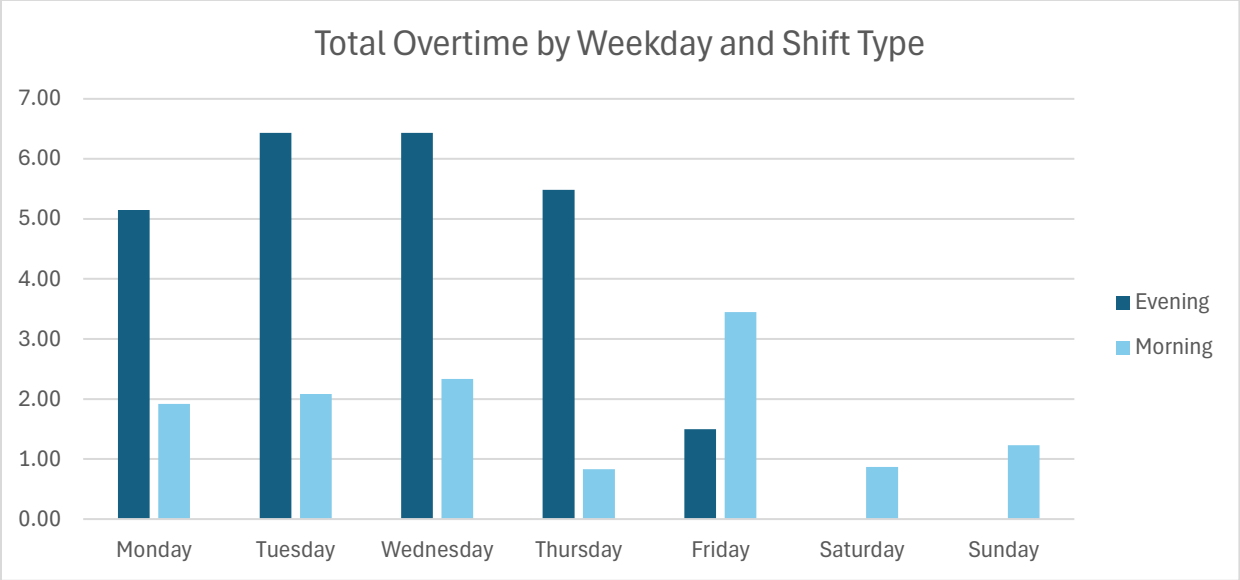


Emergency dominates the overtime picture. Nearly three quarters of all logged overtime hours come from the Emergency department, while the Clinic accounts for roughly one quarter. Lab and Reception barely register. This confirms that emergency work is unpredictable and can change from one minute to the next.



Evening shifts clearly generate the most overtime, especially in Emergency. Morning shifts in both departments stay far lower, suggesting that staff either manage to wrap up on time or maybe they don't log minor delays. A short delay after 17:00 may not feel significant, whereas staying past 21:00 carries a much stronger sense of overtime.

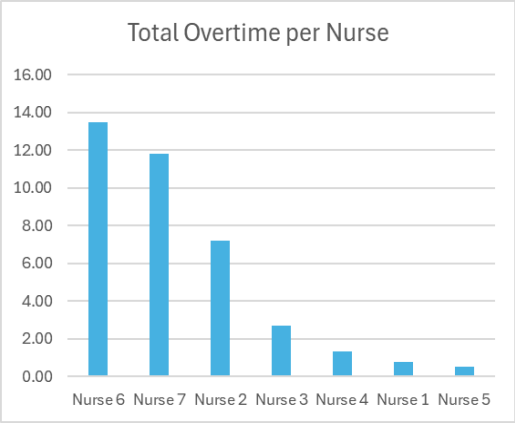
The pattern also reflects the structural difference between morning and evening work. Morning teams can hand over unfinished cases to the next shift, while evening teams must finish everything before closing, since no one comes after 21:00. That makes evening overtime almost unavoidable.

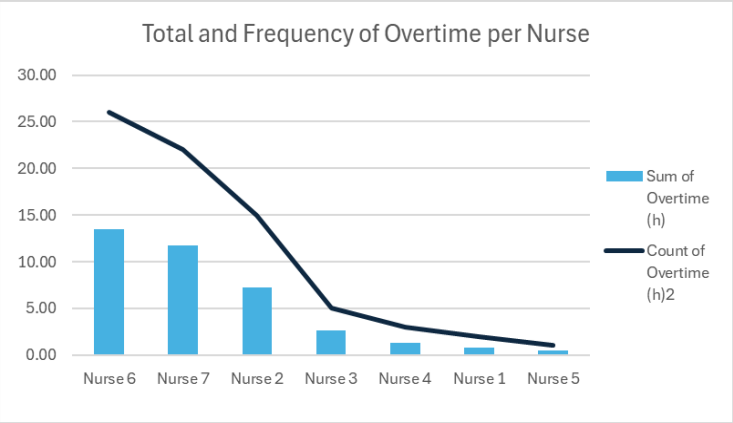


Overtime peaks early in the week. Monday through Thursday evenings show the highest totals, while mornings stay moderate and more evenly spread.

Fridays are an exception. Morning overtime rises slightly, probably because people are more likely to log short delays before the weekend. People are generally more willing to stay 15 minutes longer on a Wednesday than on a Friday.

Saturdays and Sundays remain low. On weekends, vet visits are significantly more expensive, so many owners wait until Monday, which explains the heavy start to the week and calmer weekends.





Nurses 6 and 7 stand out clearly, topping both total overtime hours and frequency of logged events. Nurse 2 also ranks high but shows a more moderate balance. The rest of the team, especially Nurses 1, 4, and 5, record very little overtime in comparison.

This pattern suggests a mix of factors. On one hand, these nurses genuinely carry heavier workloads, often taking on the busiest shifts. On the other hand, the difference might partly come from how overtime is logged. Some record every extra few minutes, while others only log longer overruns. The combination makes it difficult to separate actual workload from reporting habits, but either way, the same few nurses are consistently under the most pressure. Over time, that imbalance increases the risk of frustration or burnout if not addressed.

Sum of Overtime							
Row Labels	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
N/A		0.25	0.50			0.23	
Vet 3		1.33	2.57		0.57		
Vet 9		0.95			1.00		
Vet 12				0.50			
Vet 2	0.77	0.25			0.25		
Vet 10		0.67	1.63		0.45		
Vet 11							0.68
Vet 1	0.50	1.37			0.67		
Vet 6				1.27			
Vet 8	5.05	3.53	2.50				0.33
Vet 5	0.50		1.37	0.83	0.35	0.23	
Vet 4	0.25	0.17		3.72	1.67		
Vet 7			0.20			0.40	0.22

Sum of Overti	Monday		Tuesday		Wednesday		Thursday		Friday	
Row Labels	Evening	Morning	Evening	Morning	Evening	Morning	Evening	Morning	Evening	Morning
Nurse 1					0.50		0.27			
Nurse 2				0.42		1.20	3.28			0.92
Nurse 3					1.75		0.43		0.50	
Nurse 4			1.32							
Nurse 5							0.50			
Nurse 6	0.43	1.55	1.32	1.67	3.18	1.13	1.00	0.83		1.87
Nurse 7	4.72	0.37	3.80		1.00				1.00	0.67

The heatmaps make the weekly rhythm even clearer. Monday evenings are consistently overloaded, often falling on the same vet–nurse pairings. Midweek also stays heavy, with recurring peaks for certain teams, while Friday mornings occasionally spike but in a more random way (probably due to short logged delays before the weekend). Overall, the pattern shows that evening overtime is not random; it's built into how the schedule functions. The same people end up covering the most unpredictable and late-running shifts week after week, especially on Mondays.

The patterns are clear. Emergency work is unpredictable, and that unpredictability drives most of the overtime. You never know how many cases will come in, and when they do, everything else stops.

Evenings are consistently the worst, especially on Mondays after the weekend rush. Combine “evening” with “emergency” and “Monday,” and you’ve got the perfect storm. Yet, somehow, it looks to be the same vet–nurse team handling that shift week after week. No wonder the same names keep showing up in the charts.

While the data doesn’t include information about case complexity, the consistent overtime pattern, especially in Emergency evenings, may indicate that the workload at times exceeds what current staffing levels can handle.

In contrast, weekends actually seem well balanced, with far fewer logged hours. Maybe the scheduling there works better, or maybe the cases are spread out more evenly. Either way, something about that setup is working.

SOLUTIONS AND RECOMMENDATIONS

In the short term, the simplest fix would be to rotate the Monday evening assignments so the same vet–nurse pairing doesn't always end up carrying that shift. Another practical step is to manage the amount of work accepted into Emergency, especially late in the day. If the goal is to close by 21:00, then it needs to be okay to say *stop* earlier, or to accept smaller, more manageable emergency cases that fit the clinic's current capacity.

In the medium term, the clinic could add extra support specifically early week, since the data shows that's when overtime peaks most consistently. Introducing a flexible or on-call setup for evenings could also help since emergency work is unpredictable, with some days calm and others chaotic, so flexibility makes more sense than fixed staffing changes.

Long term, it comes down to direction. If the clinic plans to keep expanding and taking on bigger or more complex cases, then it needs to add staff, introduce on-call coverage, or even extend into night operations to handle that level of demand. But if that's *not* the intention, then the solution is the opposite. Slow down, set firmer limits, and protect the people already there.

LIMITATIONS

This analysis only covers nurse overtime, veterinarians' overtime data was not available. A nurse may sometimes delegate tasks to the following shift, but a veterinarian cannot hand over unfinished reports or medical decisions. As a result, trends may look very different if veterinarian overtime is included.

Overtime from other positions, such as reception, surgery or ward staff, is also not part of this dataset. Nor does the data capture how scheduling is managed in practice (rotations, assignments) or include financial aspects such as staffing costs versus the revenue from additional cases.

Because of these gaps, recommendations such as "hire more staff" or "extend opening hours" cannot be made with confidence. What the data does show with certainty is that nurse overtime is concentrated in emergency evening shifts. Based on this, the clinic should focus on balancing workloads and limiting case intake in relation to its current staffing capacity, while further analysis of veterinarians' overtime is needed to complete the picture.

SUMMARY

This analysis shows a clear pattern: most overtime happens in the Emergency department, especially during evening shifts early in the week. Mondays stand out as the toughest day, often following a weekend where owners delay visits due to higher costs. Once the floodgates open, the same few nurses end up carrying the workload again and again.

Evenings are especially demanding because there's no next shift to hand things over to, everything must be finished before closing. Combined with unpredictable case flow, that structure makes overtime almost built into the system.

The good news is that the issue seems manageable rather than unfixable. By rotating Monday evening shifts, limiting late-day case intake, and offering a bit more flexibility in staffing, the clinic could significantly reduce overtime pressure without major structural changes. In the long run, the choice is clear: either grow and add resources, or slow down and protect the staff you already have.