Optimal Shift Duration For Emergency Physician Efficiency, Effectiveness and Safety

A comparison of 6, 7, and 8-hour shifts

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Current Literature

- ED physicians must be efficient, yet maintain safety standards and high quality of care

- 2014 census – record population growth in Calgary → more access to Calgary EDs

- Literature gap around productivity, efficiency for < 8-hr shifts and how it relates to patient safety
Research Questions

- Is there a difference in the efficiency of patients seen per hour between 6, 7, or 8-hour shifts in the ED?

- Does shift length affect:
  - The number of patient handovers?
  - Unscheduled ED revisit rates?
Methods

- Retrospective Study of 1 Calgary ED
  - 81 physicians, 79,941 visits during a 1-year period

- Online scheduling system/ administrative database used to compare shift data:
  - Scheduled shift length and patients seen per hour
  - % of patients handed over to next physician
  - Return visits within 72-hour period
Inclusion/Exclusion Criteria

- 41 physicians met inclusion criteria
  - Worked ≥ 30 shifts of varying lengths over 1 year period
- Minor Treatment shifts excluded
  - Faster patient turnover

Total Number of Shifts Included:

3214
Results – Shift Length

- 6-Hour: 2.56 Patients/hr
- 7-Hour: 2.75 Patients/hr
- 8-Hour: 2.5 Patients/hr

P < 0.001
Results based on individual physician handovers:
- 6 Hour: 22.14%
- 7-Hour: 27.45%
- 8-Hour: 17.36%
No significant difference in 72-hr return rates between the 3 shift lengths:

- 6 Hour Shift 3.91
- 7 Hour Shift 3.77
- 8 Hour Shift 3.71

\[ P = 0.62 \]
Limitations of Study

- Inclusion of night shifts
  - All night shifts at this location are 7-hrs
  - Higher handover rate of patients following night shift
Conclusion

- Implications
  - Efficiency of EDs
  - Patient safety is main consideration: fewer handovers in 8-hour shift
  - Physician preferences
  - Staffing considerations