80 Hour Work Week

University of Colorado
Department of Surgery
Grand Rounds

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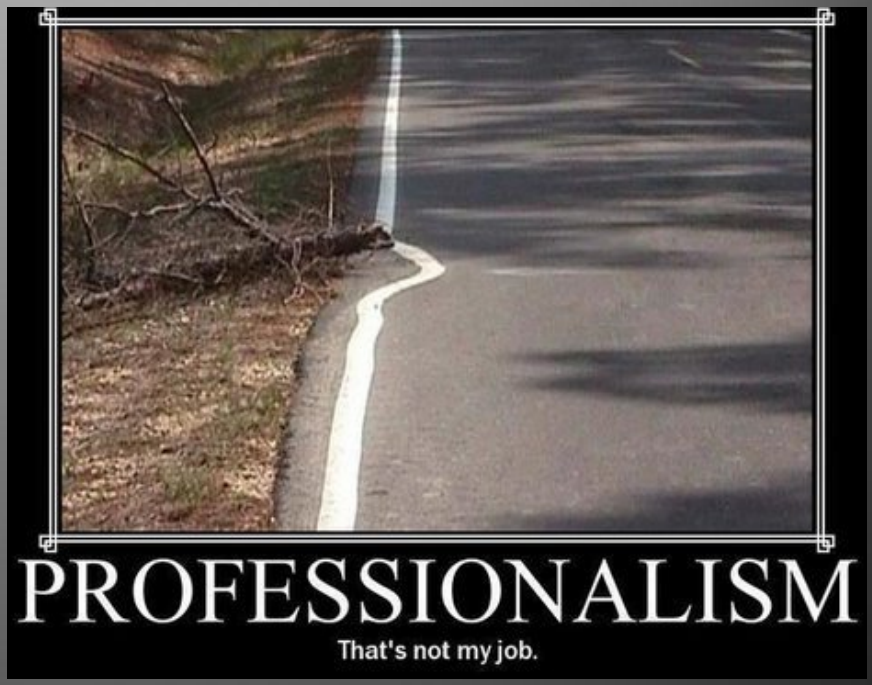
Realities of the 80 hour week

- Context / Background
- Evidence
  - Patient safety
    - Does fatigue correlate?
  - Surgical training
    - Experience
    - Cases
  - Cost
    - Unfunded mandate
- Conclusions



Job, not profession

Resident centered

Decreased responsibility

Modern Context

“Surgeons working up to 80 hours a week”

Sun Aug 29, 2010 5:53pm AEST

“The New South Wales Health Department has admitted some surgeons might be working up to 80 hours a week in public hospitals”

Libby Zion
March 5th 1984, New York Hospital

- 80 Hour work week begins
  - 1989 - New York
  - 2003 – ACGME
- Patient safety
  - Public concern
  - Litigation
- Untested assumption
  - Duty hours correlated to patient safety

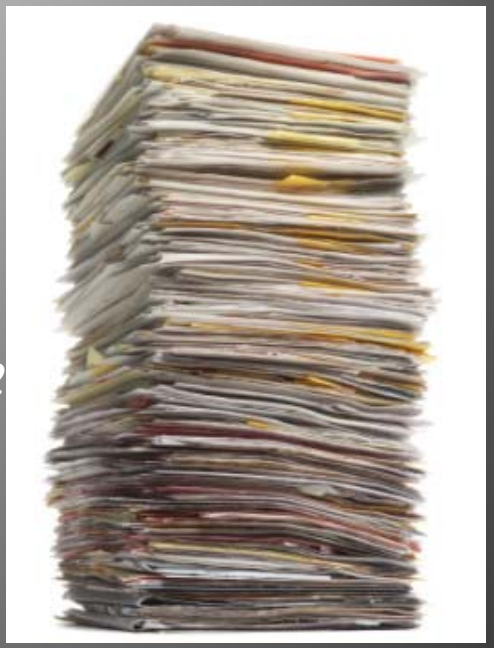
The Impact of a Regulation Restricting Medical House Staff Working Hours on the Quality of Patient Care

Christine Laine, MD, MPH; Lee Goldman, MD, MPH; Jane R. Soukup, MS; Joseph G. Hayes, MD

(*JAMA*. 1993;269:374-378)

- Compared pre/post 80 hour work week
  - n = 263 before, 263 after
- No change
  - Mortality
  - Transfers to ICU
  - Length of stay
- Increased
  - Complications
  - Diagnostic test delays

Patient Safety



Coverdill et al, American Journal of Surgery 2006

- Multi-site cross-sectional (surg residents / faculty)
- Lack of familiarity = Major cause of errors

Vidyarthi et al, Society of General Internal Medicine 2

- Cross-section survey 164 residents UCSF (2007)
- Error reporting associated with:
  - Work stressors
  - Time spent on non-physician tasks

Hutter et al. Annals of Surgery 2006 - Single institution (pre-post study)

- NO CHANGE - mortality & complications (NSQIP), ABSITE scores

Kaafarani et al. J of Surgical Research 2005 - Single institution (pre-post study)

- NO CHANGE -mortality in general or vascular surgery patients

Ellman et al. Ann Thorac Surg 2005 - Retro cohort study (10 yrs) cardiac cases

- NO CHANGE - mortality and surgical complications

Loss of critical experience

- *Connors et al. J Thorac Cardiovasc Surg* 2009
  - Multicenter study, n=37
  - Cardiac cases lower (190 vs 153, 154 vs 108, 116 vs 76)
  - Overall total cases lower (251 vs 195, 219 vs 187, 234 vs 214)

- *Damadi et al. Journal of Surgical Education 2007*
  - Major Cases, n=6
    - Non-chief years (1033 versus 854)
    - Chief Year (255 versus 189)

- *Mcelearney, et al. The American Surgeon, 2005*
  - Cases/month (single institution)
    - Decrease at chief level - 31.5 +/- 17.6 (2002) vs. 26.1 +/- 9.6 (2003)
  - Post-call afternoon cases

Decreasing Overall Experience

Meeting the 80-hour work week requirement: What did we cut?
Current Surgery, 2004 Chung et al.

- Changes
  - Reducing external rotations
  - PGY-3 more responsibility
  - Time in lower volume hospitals (hour reduction)

- Reduced
  - consultations seen (19 ± 4 vs. 36 ± 7 per week, $p < 0.001$)
  - conference attendance (5.7 vs. 3.5 per week, $p < 0.001$)
  - surgeries performed (55 ± 7 vs. 68 ± 9 per wk / program)

- Senior residents - dissatisfied with the reduced educational components

Cost implications of reduced work hours and workloads for resident physicians

Nuckols et al. *New England Journal of Medicine* 2009

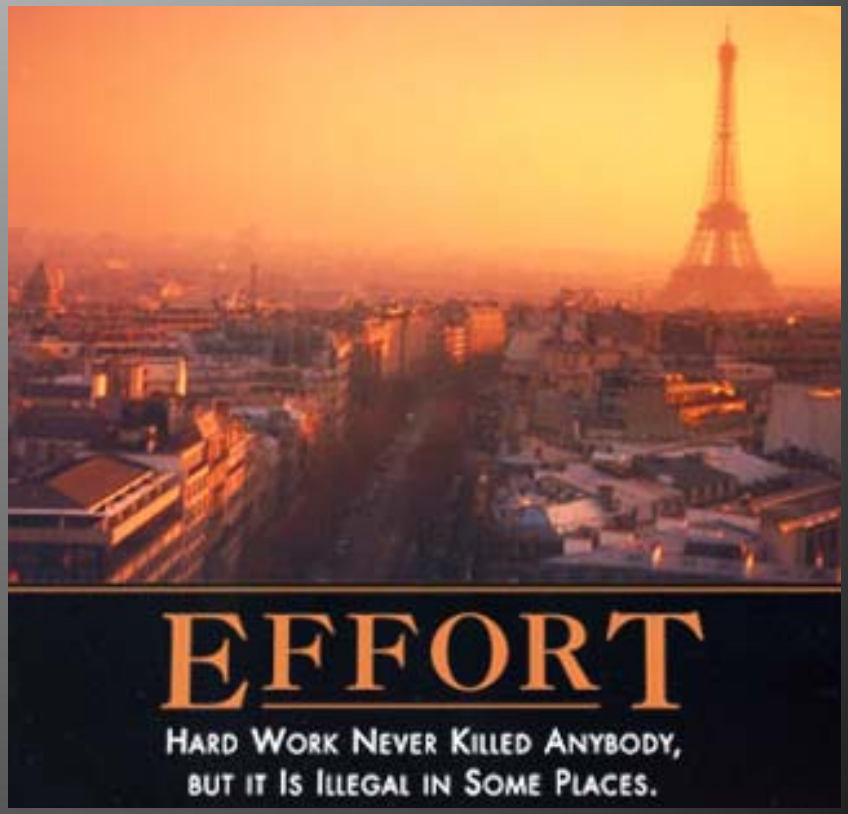
- Applied probability model based on
  - Published data
  - Annual cost of implementing the IOM recommendations

- To implement IOM recs
  - Non-residents (NPs, PAs) - $1.6 billion
  - Additional residents - $1.7 billion

- To be a cost-neutral intervention
  - Need 11.3% decrease in preventable adverse events

Conclusions

- 80 work week
  - No change in patient safety
  - Fewer cases
  - Less experience
  - Expense no one can pay
- Erosion of traditional physician work ethic / responsibility



Epilogue