

# Duty Hours, Professionalism, and the Clinical Learning Environment

Society of Surgical Chairs

October 16, 2016



Albany Medical Center

# Minimum Case Requirements

- ABS-RRC Committee
  - Recommendations approved
  - ABS: 2018 graduates
  - RRC: see data in 2019

Category	Current minimum	Median (2013-15)	10 <sup>th</sup> percentile (2013-15)	Proposed minimum
Skin, Soft Tissue	25	47	26	25
Breast		60	31	40
Head and Neck	24	20 (no endocrine)	9 (no endocrine)	25
Alimentary Tract	72	244	174	180
Esophagus		9	3	5
Stomach		29	15	15
Small intestine		35	20	25
Large intestine		60	25	40
Appendix		55	25	40
Anorectal		27	13	20
Abdominal	65	314	235	250
Biliary		119	73	85
Hernia		120	82	85
Liver	4	8	4	5
Pancreas	3	9	3	5
Vascular	44	103	60	50
Endocrine	8	29	15	15
Operative Trauma	10	23	12	10
Non-operative Trauma	20	28	20	40
Thoracic	15	34	18	20
Pediatrics	20	25	14	20
Plastic	5	17	7	10
Surgical Critical Care	25	72	21	40
Laparoscopic Basic	60	166	101	100
Endoscopy	85	119	95	85
Upper Endoscopy	35	40	20	35
Colonoscopy	50	56	50	50
Laparoscopic Complex	25	104	60	75
Total Major Cases:	750	996	821	850
Chief year Major Cases	150	230	171	200
Teaching Ass't Cases	25	32	8	25

5 mastectomies, and 5 axilla

10 thyroid or parathyroid

10 vascular access

10 vascular anastomosis, repair or endarterectomy

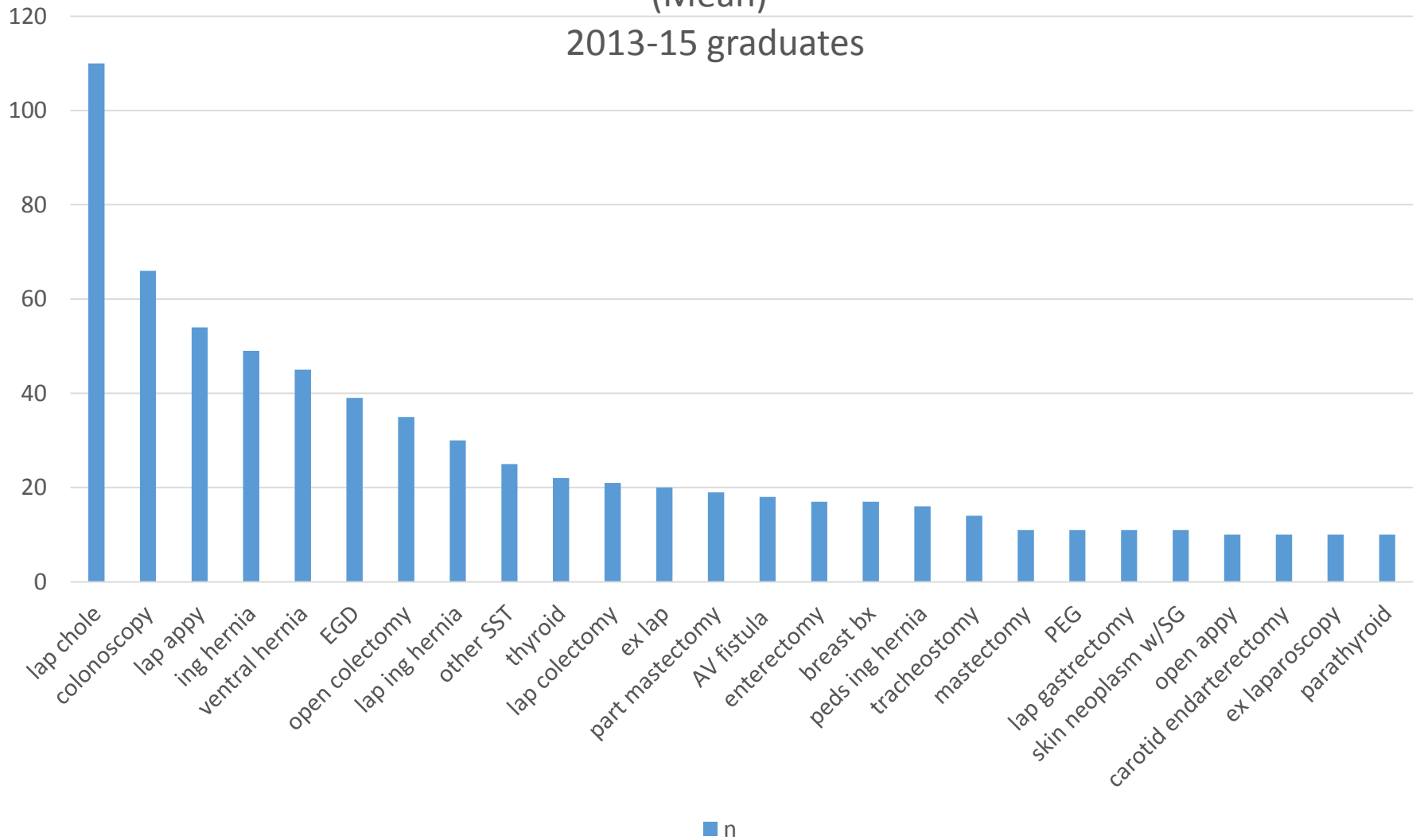
10 resuscitations as team leader

5 thoracotomies

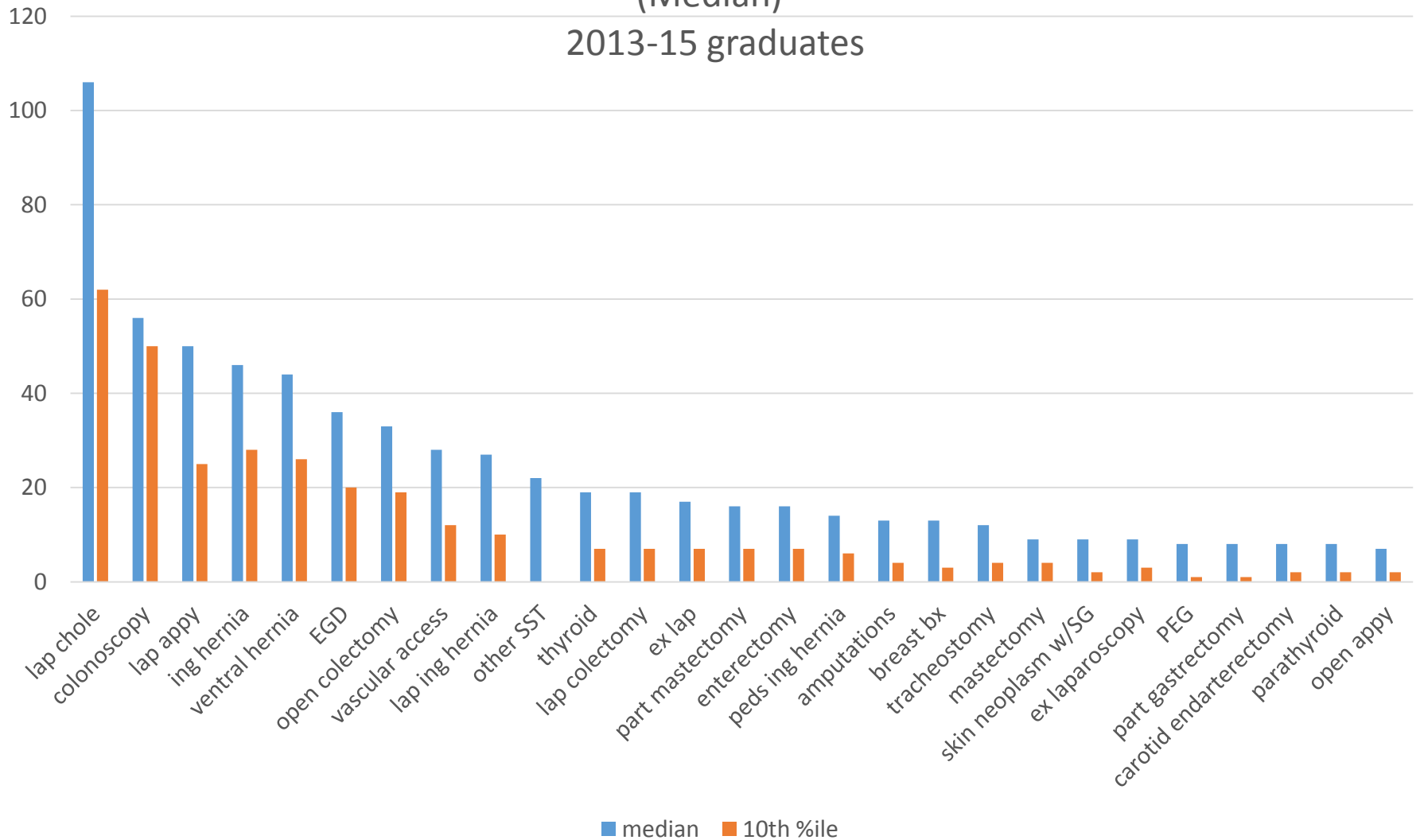


Albany Medical Center

Number of operations  
(Mean)-  
2013-15 graduates



# Number of operations (Median)- 2013-15 graduates



# Duty Hours Task Force

- Common Program Requirements
  - Section VI Revision: Resident Duty Hours in the Learning and Working Environment

Section VI	
Professionalism, Personal Responsibility, and Patient Safety	Resident Duty Hours
Transitions of Care	<ul style="list-style-type: none"><li>• Maximum hours per week</li><li>• Mandatory time free of duty</li><li>• Maximum duty period length</li><li>• Minimum time off between duty</li><li>• Maximum frequency night float</li><li>• Maximum frequency night call</li><li>• PGY1's vs. other residents</li></ul>
Alertness Management/Fatigue Mitigation	
Supervision of Residents	
Clinical Responsibilities	

Kim Burchiel, MD, Co-Chair (RRC – Neurological Surgery)  
 Rowen K. Zetterman, MD, Co-Chair (ACGME Board GI, Internal Medicine)  
 Thomas J. Nasca, MD, MACP, Vice-Chair

# 9 of 18 Task Force Members are SURGEONS

James A. Arrighi (RRC M

Stanley W. Ashley (ACG

Jessica L. Bienstock (Rf

Peter J. Carek (RRC Family Medicine)

Ricardo Correa (RRC Medicine - resident)

David A. Forstein (ACGME Board OB/GYN)

Robert Gaiser (RRC Anesthesiology)

Jeffrey P. Gold (ACGME Board Thoracic Surgery)

George A. Keepers, MD (RRC Psychiatry)

Neurosurgery - resident)

ard Internal Medicine)

ident - Gen Surgery)

Lorrie A. Langdale (ACGME Board Gen Surgery)

Kenneth M. Ludmerer (ACGME Board Medicine)

Philip Shayne (RRC Emergency Medicine)

Steven C. Stain (RRC Gen Surgery)

Suzanne K. Woods (RRC Pediatrics)

Claudia Wyatt-Johnson (ACGME Board Public Member)



# Clinical Learning Environment

## *Committee Charge:*

- Revise Common Program Requirements as we saw fit
- ACGME would deal with public and political consequences

Section VI	
Professionalism, Personal Responsibility, and Patient Safety	Resident Duty Hours
Transitions of Care	<ul style="list-style-type: none"><li>• Maximum hours per week</li><li>• Mandatory time free of duty</li><li>• Maximum duty period length</li><li>• Minimum time off between duty</li><li>• Maximum frequency night float</li><li>• Maximum frequency night call</li><li>• PGY's vs. other residents</li></ul>
Alertness Management/Fatigue Mitigation	
Supervision of Residents	
Clinical Responsibilities	



# Clinical Learning Environment

- Residency education must occur in the context of a learning and working environment:
  - Safety and quality of care rendered to patients by residents today
  - Safety and quality of care rendered by residents in their future practice
  - Faculty modeling of professionalism
    - the effacement of self-interest
    - curiosity, problem-solving, intellectual rigor, and discovery
  - Commitment to the well-being of the residents, faculty members, students, and all members of the health care team

# Clinical Learning Environment

- Resident well being
- Duty Hours
  - 2003, 2011 in response to IOM
- Committee considerations
  - Sleep science
  - Professionalism vs. shift mentality
  - First Trial – General Surgery
  - iCompare – Internal Medicine

# Why Do Doctors Commit Suicide?

By PRANAY SINHA SEPT. 4, 2014



Anna Parini

NEW HAVEN — TWO weeks ago, two medical residents, in their second month of residency training in different programs, jumped to their deaths in separate incidents in New York City. I did not know them, and cannot presume to speak for them or their circumstances. But I imagine that they had celebrated their medical school graduation this spring just as my friends and I did. I imagine they began their residencies with the same enthusiasm for healing as we did. And I imagine that they experienced fatigue, emotional exhaustion and crippling self-doubt at the beginning of those residencies — I know I did.

The statistics on physician suicide are frightening: [Physicians are more than twice as likely to kill themselves](#) as nonphysicians (and female physicians three times more likely than their male counterparts). Some [400 doctors commit suicide every year](#). Young physicians at the beginning of their training are particularly vulnerable: [In a recent study](#), 9.4 percent of

## Depressive Symptoms in Medical Students and Residents: A Multischool Study

Deborah Goebert, DPH, Diane Thompson, MD, Junji Takeshita, MD, Cheryl Beach, PhD, Philip Bryson, LCSW, Kimberly Ephgrave, MD, Alan Kent, PhD, Monique Kunkel, MD, Joel Schechter, PhD, and Jodi Tate, MD

### Abstract

#### Background

This multisite, anonymous study assessed depressive symptoms and suicidal ideation in medical trainees (medical students and residents).

#### Method

In 2003–2004, the authors surveyed medical trainees at six sites. Surveys

Responses were compared by level of training, gender, and ethnicity.

#### Results

More than 2,000 medical students and residents responded, for an overall response rate of 89%. Based on categorical levels from the CES-D, 12% had probable major depression and

reported suicidal ideation, with differences by trainee level, with a higher rate among medical students; and ethnicity, with the highest rate among black/African American respondents and the lowest among Caucasian respondents ( $\chi^2 = 5.19$ ,  $df = 1$ , and  $P = .023$  and  $\chi^2 = 10.42$ ,  $df = 3$ , and  $P = .015$ , respectively).

- 12% major depression
- 9.2% mild/moderate depression
- 6.2% suicide ideation



# Resident Well Being

- Physician suicide
- Student/resident depression
- Work Compression
- Electronic Medical Record

	2003	2011
Maximum of hours per week	80 hours, averaged over 4 wks	No change
Maximum of duty hours length	30 hours (admitting patients up to 24 hours then 6 additional hours for transitional and educational activities)	<ul style="list-style-type: none"> <li>• PGY-2 and above: 28 hrs (admitting patients for up to 24 hrs, plus 4-hr remaining hrs for transition and educational activities)</li> <li>• PGY-1 : 16 hrs</li> </ul>
Maximum in house call frequency	Every third night, on average	Every third night, no averaging
Minimum time off between scheduled duty periods	10 hours after shift length	<ul style="list-style-type: none"> <li>• PGY-1 should have 10 hrs; must have 8 hrs</li> <li>• Intermediate-level should have 10hrs; must have 8 hrs. Must have 14 hrs after 24 hrs on in-house duty</li> <li>• Final years: exceptions made by RRC</li> </ul>
Maximum frequency of in hospital night float	Not addressed	<ul style="list-style-type: none"> <li>• 6 consecutive nights</li> </ul>
Mandatory time off duty	4 days off per month • 1 day (24 hours) off per week, averaged over 4 weeks	<ul style="list-style-type: none"> <li>• Same</li> </ul>

# Sleep Science

## Outcomes of Daytime Procedures Performed by Attending Surgeons after Night Work:

- Patients undergoing 1 of 12 elective daytime procedures performed by surgeons who had treated patients from midnight to 7 a.m. were matched in a 1:1 ratio to patients undergoing the same procedure by the same physician on a day when the physician had not treated patients after midnight. (38,978 pts, treated by 1448 physicians)
- No significant difference in the primary outcome (death, readmission, or complication), LOS or length of operation



# Sleep Science

- Twenty-seven of 33 volunteer orthopedic surgical residents (82%) completed the study, representing 65% (33 of 51) of the orthopedic residency program.
- Residents' sleep and awake periods were continuously recorded via actigraphy, and a daily questionnaire was used to analyze mental fatigue.
- Percentage of time at less than 80% mental effectiveness (correlating with an increased risk of error), percentage of time at less than 70% mental effectiveness (correlating with a blood alcohol level of 0.08%), the mean amount of daily sleep, and the relative risk of medical error compared with chance.

# Sleep Science

- Residents were fatigued during 48% and impaired during 27% of their time awake.
- Among all residents, the mean amount of daily sleep was 5.3 hours.
- Overall, residents' fatigue levels were predicted to increase the risk of medical error by 22% compared with well-rested historical control subjects.
- Night-float residents were more impaired ( $P = .02$ ), with an increased risk of medical error ( $P = .045$ ).
- Resident fatigue is prevalent, pervasive, and variable. To guide targeted interventions, fatigue modeling can be conducted in hospitals to identify periods, rotations, and individuals at risk of medical error

# Duty-Hour Limits and Patient Care and Resident Outcomes: Can High-Quality Studies Offer Insight into Complex Relationships?

Ingrid Philibert,<sup>1</sup> Thomas Nasca,<sup>1,2</sup>  
Timothy Brigham,<sup>1,2</sup> and Jane Shapiro<sup>1</sup>

<sup>1</sup>Accreditation Council for Graduate Medical Education, Chicago, Illinois 60654;  
email: [iphilibert@acgme.org](mailto:iphilibert@acgme.org)

<sup>2</sup>Jefferson Medical College of Thomas Jefferson University, Philadelphia, Pennsylvania 19107

# Duty Hour Limits: Complex Relationship

- Positive effect on resident sleep
- Mixed effect on patient safety
- No effect on operative volumes
- Beneficial effect on resident burnout
- No effect on patient outcomes
- Continuity of care may differ between medical and surgical specialties

# FIRST TRIAL

## Control Arm

- Current ACGME duty hours
  - 80 hours/wk
  - Average 1 day/wk
  - Call Q 3 days (averaged)
  - PGY I: 16 hr limit/day
  - PGY II-V: 24 hr limit/day
  - Off: 14 hrs after 24 hr shift  
8-10 hrs after nl shift

## Intervention

- Current ACGME duty hours EXCEPT:
  - PGY I: Like other residents
  - PGY II-V: continuity of care
  - PGY V : Manage own hours



# FIRST TRIAL

- Randomize NSQIP Hospitals
- Outcomes
  - Risk Adjusted Hospital M & M's
- Non inferiority Trial??
- What should we do with results?

Original Article

# National Cluster-Randomized Trial of Duty-Hour Flexibility in Surgical Training

Karl Y. Bilimoria, M.D., M.S.C.I., Jeanette W. Chung, Ph.D., Larry V. Hedges, Ph.D., Allison R. Dahlke, M.P.H., Remi Love, B.S., Mark E. Cohen, Ph.D., David B. Hoyt, M.D., Anthony D. Yang, M.D., John L. Tarpley, M.D., John D. Mellinger, M.D., David M. Mahvi, M.D., Rachel R. Kelz, M.D., M.S.C.E., Clifford Y. Ko, M.D., M.S.H.S., David D. Odell, M.D., M.M.Sc., Jonah J. Stulberg, M.D., Ph.D., M.P.H., and Frank R. Lewis, M.D.

N Engl J Med  
Volume 374(8):713-727  
February 25, 2016



The NEW ENGLAND  
JOURNAL of MEDICINE



# Conclusions

- As compared with standard duty-hour policies, flexible, less-restrictive duty-hour policies for surgical residents were associated with noninferior patient outcomes and no significant difference in residents' satisfaction with overall well-being and education quality.



CORRESPONDENCE



## Surgical Resident Duty Hours

**TO THE EDITOR:** As Bilimoria et al. (Feb. 25 issue)<sup>1</sup> note in their article on the Flexibility in Duty Hour Requirements for Surgical Trainees (FIRST) the age, sex, and geographic distribution of the respondents were similar to the demographic characteristics of U.S. general surgery residents

# Survey of 1003 Surgery Residents

	Yes (%)	No (%)
Have you ever exceeded duty hour limits but did not report it?	71.6	28.4
How often are you exceeding your duty-hour limits?		
Once/yr	4.8	
Several times/yr	27.4	
Once/month	19.9	
2-3 times/month	24.3	
Once/wk	8.9	
2-3 times/wk	10.1	
4-6 times/wk	3.3	
Daily	1.4	

# Survey of 1003 Surgery Residents

	% of Residents	
How many hours do you work during an average week?		
<80	39.6	
81-85	21.1	
86-90	21.4	
91-95	8.7	
96-100	6.8	
101-105	1.7	
>105	0.7	

# First Trial: ABSITE Supplemental Questions

- Exceeded 80 hours
  - Control arm: 20%
  - Flexible arm: 30%
- *Needle Sticks: 20% in the last month*
- *MVA's: 2% in the last month*

# Resident Well Being

- MVA's
- Needle sticks



Unclear if related to  
Duty Hours

- Depression
- Resident suicide

# Duty Hours, Professionalism, and the Clinical Learning Environment

## Committee Considerations

- Duty Hour limits
- Sleep science
- Professionalism vs. shift mentality
- First Trial – General Surgery
- iCompare – Internal Medicine
- Resident well being

## Recommendations?

- ↑ or ↓
- Require time off or naps?
- Staying more than 24 hours to care for a patient?
- Accept data?
- Wait for results?
- Availability of mental health?



# Task Force Recommendations

- 80 hours?
  - Enforcement
- Treat PGY1's different?
- 24 + 4 hours?
  - Stay longer?
- Current standards?
  - Call: Every third night
  - 1 in 7 free
- EMR work from home?
- Resident well-being?
  - Access to medical, dental, mental health
  - Burnout, depression,
  - Safety
    - MVA
    - Needle sticks

# ACGME Timeline

- November 1: Submit for public comment
- January 5: Final task force meeting
- February 4-5 ACGME Board approval
- July 1, 2017 New rules in effect