Supplementary Online Content


eTable 1. Adjusted Analysis for JHH

eTable 2. JHH Trainee Physicians: Ordered Logistic Regression β Coefficient (95% CI)

eTable 3. Single Center Trainee Physicians: Ordered Logistic Regression β Coefficient (95% CI)

eAppendix. Vignettes

This supplementary material has been provided by the authors to give readers additional information about their work.
<table>
<thead>
<tr>
<th></th>
<th>Post-op Pain Q1</th>
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<th>Drug Abuse Q3</th>
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</thead>
<tbody>
<tr>
<td>Patient Race&lt;sup&gt;1&lt;/sup&gt;</td>
<td>-0.03 (0.52, 0.45)</td>
<td>0.16 (-0.33, 0.65)</td>
<td>0.41 (-0.10, 0.92)</td>
<td>0.33 (-0.15, 0.81)</td>
<td>-0.13 (-0.61, 0.35)</td>
<td>-0.25 (-0.75, 0.24)</td>
<td>0.65 (0.16, 1.15)</td>
<td>-0.04 (-0.53, 0.45)</td>
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<td>Patient Class&lt;sup&gt;1&lt;/sup&gt;</td>
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<tr>
<td>Subject IAT Score</td>
<td>0.28 (-0.22, 0.77)</td>
<td>-0.21 (-0.73, 0.32)</td>
<td>-0.17 (-0.68, 0.35)</td>
<td>-0.55 (-1.15, 0.05)</td>
<td>0.05 (-0.54, 0.64)</td>
<td>-0.21 (-0.81, 0.40)</td>
<td>-0.07 (-0.65, 0.52)</td>
<td>-0.40 (-0.98, 0.18)</td>
<td>-0.62 (-1.21, 0.02)</td>
<td>-0.26 (-0.77, 0.25)</td>
<td>0.09 (-0.40, 0.59)</td>
<td>0.14 (-0.36, 0.63)</td>
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<td>Explicit Pref.</td>
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<td>0.69 (-0.48, 1.87)</td>
<td>-0.55 (-1.15, 0.91)</td>
<td>0.05 (-0.54, 0.64)</td>
<td>-0.21 (-0.81, 0.40)</td>
<td>-0.07 (-0.65, 0.52)</td>
<td>-0.40 (-0.98, 0.18)</td>
<td>-0.62 (-1.21, 0.02)</td>
<td>-0.26 (-0.77, 0.25)</td>
<td>0.09 (-0.40, 0.59)</td>
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<td>Female Gender&lt;sup&gt;2&lt;/sup&gt;</td>
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</table>

1. Comparison group is white race or upper class, as appropriate
2. Comparison group is male
3. Comparison group 30-34 years of age
<table>
<thead>
<tr>
<th></th>
<th>Cervical Spine Q1</th>
<th>Cervical Spine Q2</th>
<th>Cervical Spine Q3</th>
<th>Abdomen Pain Q1</th>
<th>Abdomen Pain Q2</th>
<th>Abdomen Pain Q3</th>
<th>Hernia Q1</th>
<th>Hernia Q2</th>
<th>Hernia Q3</th>
<th>Restraint Q1</th>
<th>Restraint Q2</th>
<th>Restraint Q3</th>
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<tbody>
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<td><strong>Patient Race</strong></td>
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<td>-</td>
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<td>0.71 (0.23, 1.20)</td>
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<td>0.12 (-0.35, 0.60)</td>
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<td><strong>Subject IAT Score</strong></td>
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<td>0.01 (-0.56, 0.58)</td>
<td>0.42 (-0.18, 1.01)</td>
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<td><strong>Explicit Pref.</strong></td>
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<td>-0.88 (-2.05, 0.29)</td>
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<td>-0.75 (-2.33, 0.83)</td>
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<td>0.94 (-0.14, 2.01)</td>
<td>0.49 (-0.65, 1.62)</td>
<td>0.19 (-0.91, 1.28)</td>
<td>0.35 (-118, 1.88)</td>
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<td>0.93 (-0.62, 2.49)</td>
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<tr>
<td><strong>Female Gender</strong></td>
<td>0.40 (-0.12, 0.91)</td>
<td>0.40 (-0.10, 0.90)</td>
<td>0.37 (-0.13, 0.87)</td>
<td>0.28 (-0.21, 0.76)</td>
<td>0.26 (-0.23, 0.75)</td>
<td>-0.16 (-0.48, 0.52)</td>
<td>0.02 (-1.00, 0.00)</td>
<td>-0.50 (-0.13, 0.86)</td>
<td>0.36 (-0.31, 0.70)</td>
<td>0.20 (-0.21, 0.75)</td>
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<td>0.52 (0.03, 1.01)</td>
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<tr>
<td><strong>Age</strong></td>
<td>-0.33 (-0.95, 0.35)</td>
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<td>0.25 (-0.36, 0.85)</td>
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<td><strong>35+</strong></td>
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<td>-0.68 (-1.26, -0.10)</td>
<td>0.16 (-0.39, 0.72)</td>
<td>-0.04 (-0.59, 0.52)</td>
<td>0.01 (-0.57, 0.56)</td>
<td>-0.23 (-0.79, 0.33)</td>
<td>0.14 (-0.42, 0.70)</td>
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1. Comparison group is white race or upper class, as appropriate
2. Comparison group is male
3. Comparison group 30-34 years of age

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### eTable 2. JHH Trainee Physicians: Ordered Logistic Regression β Coefficient (95% CI)

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</tr>
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<tbody>
<tr>
<td>Interns</td>
<td>0.59 (-0.37, 1.55)</td>
<td>0.00 (-0.97, 0.97)</td>
<td>0.06 (-0.91, 1.03)</td>
<td>0.23 (-0.82, 1.28)</td>
<td>0.66 (-0.37, 1.69)</td>
<td>0.04 (-1.04, 1.11)</td>
<td>0.68 (-0.89, 1.96)</td>
<td>0.94 (-0.07, 1.96)</td>
<td>-0.34 (-1.31, 0.64)</td>
<td>1.49 (0.51, 2.47)</td>
<td>1.12 (0.17, 2.07)</td>
<td>-0.32 (-1.35, 0.71)</td>
</tr>
<tr>
<td>Fellows</td>
<td>0.14 (-0.69, 0.77)</td>
<td>-0.59 (-1.42, 0.25)</td>
<td>-0.93 (-1.83, -0.04)</td>
<td>0.84 (0.03, 1.66)</td>
<td>-0.16 (-0.97, 0.66)</td>
<td>-0.67 (-1.50, 0.14)</td>
<td>-0.22 (-1.08, 0.63)</td>
<td>-0.15 (-0.97, 0.66)</td>
<td>0.38 (-0.45, 1.22)</td>
<td>-0.72 (-1.56, 0.12)</td>
<td>0.07 (-0.76, 0.89)</td>
<td>-0.21 (-1.10, 0.68)</td>
</tr>
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Models adjusted for: Patient race, participant age, participant gender, participant implicit and explicit preference
Comparison group: PGY2+ Resident Physicians

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<tr>
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<th>Cervical spine Q1</th>
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<tr>
<td>Interns</td>
<td>-0.04 (-0.92, 1.00)</td>
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<td>-0.24 (-1.28, 0.79)</td>
<td>-0.28 (-1.40, 0.65)</td>
<td>-0.45 (-1.40, 0.50)</td>
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<td>-0.38 (-1.24, 0.48)</td>
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Models adjusted for: patient race, participant age, participant gender, participant implicit and explicit preference
Comparison group: PGY2+ Resident Physicians
eAppendix. Vignettes

I. Post-operative Pain

A 48 year (airline pilot or bus driver) presents to the emergency department with abdominal pain and 4 days of constipation. Work up reveals a mass in his right colon for which he undergoes a hemicolectomy. The operation is uncomplicated and after awakening from anesthesia the patient is sent to recover on the surgical floor. You assess the patient on post-operative day #1 and the patient complains of extreme unbearable pain, saying that he did not sleep at all through the night. However, it was reported that he did sleep intermittently through the night and whenever he woke up all he asked for is “stronger pain medicine.” Regarding this middle aged airline pilot or bus driver:

1. This patient is exaggerating his level of pain:

   1 2 3 4 5 6 7
   Disagree Strongly Agree Strongly

2. Rate the urgency of this patient’s need for pain medication

   1 2 3 4 5 6 7
   Not Urgent Extremely Urgent

3. How much pain medication should this patient receive?

   1 2 3 4 5 6 7
   Minimal Amount Large Amount

II. Rib Fracture

A 24 year old woman was in a car crash several hours ago. The patient was brought to the emergency department and now has been admitted to the hospital after a full trauma diagnostic work up. Her labs are normal and CT scans of her head, c-spine, chest, abdomen and pelvis reveal 3 rib fractures only and no other injuries. The patient last received 50 μg of fentanyl intravenously five minutes ago but continues to complain of severe pain whenever someone walks by. You do notice that if no one is paying attention the patient appears comfortable. Regarding this patient:

1. This patient is exaggerating her level of pain:

   1 2 3 4 5 6 7
   Disagree Strongly Agree Strongly

2. Rate the urgency of this patient’s need for pain medication

   1 2 3 4 5 6 7
   Not Urgent Extremely Urgent

3. How much pain medication should this patient receive?

   1 2 3 4 5 6 7
   Minimal Amount Large Amount

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III. Alcohol Withdrawal

Ms. Rogers is a 55 year old woman who is 48 hours post splenectomy for a ruptured spleen sustained during a motor vehicle crash. On rounds you notice she is having some difficulty forming coherent sentences and disoriented to time and place. Her temperature is 38.1, heart rate is 104, and she is slightly hypertensive suggesting the diagnosis of alcohol withdrawal. To get an adequate history, the surgical team interviews the patient’s family. Her husband and brother are sitting in the patient’s room. Her husband states that his wife has at most two drinks a night. The patient’s brother adds that he has not seen his sister in a drunken state in ten years. Regarding this patient:

1. This patient’s family is hiding her alcohol abuse history:

   1 2 3 4 5 6 7
   Disagree Strongly Agree Strongly

2. Based on this information, how likely are you to ask the patient further questions and complete a brief alcohol abuse screening tool before discharge:

   1 2 3 4 5 6 7
   Not Likely Extremely Likely

3. Should this patient be treated with pharmacological prophylaxis for alcohol withdrawal?

   1 2 3 4 5 6 7
   No Yes

IV. Drug Abuse

A 36 year (brick layer or architect) comes to the emergency department complaining of diffuse abdominal pain. He was discharged from an outside hospital four weeks ago after having an open cholecystectomy. He is anxious, and rates his pain 5/10. Lab values are within normal limits and a CT scan demonstrates normal post operative changes. It is also found out that he recently had his final post operative clinic visit and his surgeon has cleared him to go back to work as an (architect or brick layer). Currently his HR is 80 and temp is 37.3. His abdominal exam reveals a healed incision and he complains of some mild tenderness upon palpation. The patient is requesting something for his pain. He states he normally takes Percoset twice a day and that helps his pain and that he has run out of this medication. Regarding this patient:

1. Do you think this patient is abusing Percoset?

   1 2 3 4 5 6 7
   No Yes

2. Does the fact that he is asking for specific pain medications suggest that he is abusing narcotics?

   1 2 3 4 5 6 7
   No Yes

3. What is your plan of care for this patient?

   a) The patient needs no intervention in the emergency department. He should call his primary surgeon.
   b) The patient should be sent home with a prescription for Motrin and instructions to call his primary surgeon.
c) The patient should be treated with a narcotic, sent home with a limited supply of Percocet, and asked to follow up with his primary surgeon.

d) The patient should be admitted for observation.

V. Consent

A 49 year old woman presents to the emergency department after being struck by a car while attempting to cross the street. On arrival she is not protecting her airway and is immediately intubated. Her systolic blood pressure is initially measured as 90 mmHg, but with resuscitation it increases to 120/74. A CT scan reveals an isolated head injury that does not require an operation. She is slated to be brought up to the neurological ICU for observation and management. However, a bed is not available for the next 2 hours and the patient needs a central line placed for administration of a 3% hypertonic saline. The surgical resident begins to place a central line but does not perform a time out and does not use complete sterile precautions. The patient’s children are in the waiting room and are very concerned for their mother who is a school teacher. Regarding this patient:

a) The patient’s family could have been approached for consent for this urgent but not emergent procedure. A time out is not required for any procedures performed in the emergency department.

b) The patient’s nurse is entitled to stop the resident from placing the central line in non-emergent situations if he or she is not convinced that all central line insertion protocols are being followed.

c) Central lines should never be placed in the emergency department.

VI. Cervical Spine

A 42 year old male was involved in a car crash driving home from his job as a computer engineer or a parking lot attendant. The airbag deployed and he has a small cut above his left eye that does not require stitches. He did not lose consciousness, GCS is 15 and on physical exam he has some tenderness in the back of his neck. The patient denies any medical history and appears to have no other injuries or complaints. A CT scan of the head, neck, and c-spine is performed and is negative. Regarding this computer engineer or parking lot attendant:

1. How likely is it that this patient has a cervical spine injury?

   1  2  3  4  5  6  7  
   Not at all Likely  Extremely Likely

2. In order to manage this person’s neck pain you will

   1  2  3  4  5  6  7  
   Discharge the patient with a Miami-J collar and follow-up in 15 days.  
   Order a spine service consult

3. Does this person need an MRI of the c-spine?

   1  2  3  4  5  6  7  
   No  Yes
VII. Appendicitis vs. Pelvic Inflammatory Disease

A 20 year old mother of one comes to the emergency department with right lower quadrant pain at rest and on palpation. She has positive bowel sounds. She denies nausea, is hungry and wants to eat. She has no history of previous abdominal surgeries. She has no dysuria and her urinalysis is pending. Lab values are unremarkable except for white blood count which is 14,000. Regarding this patient:

1. On first impression, you think the most likely primary diagnosis is
   - 1 2 3 4 5 6 7
     Appendicitis     Pelvic Inflammatory Disease

2. What would you order first
   - 1 2 3 4 5 6 7
     CT Scan       GYN Consult

3. 4 hours later a CT scan is equivocal with inflammation in the right lower quadrant but the appendix is not visualized. The next step in your management will be:
   - 1 2 3 4 5 6 7
     Order pelvic ultra-sound   Diagnostic Laparoscopy/Appendectomy

VIII. Hernia

A 78 year old man who is a (retired financial executive or gas station attendant) with atrial fibrillation, hypertension, gout and diabetes presents with a reducible right inguinal hernia that is asymptomatic, and does not bother him. The hernia was found on physical exam several months ago. He has been busy over the summer with projects and grandchildren, and states that he does not mind spending time at home now that he is retired. Regarding this patient:

1. How high is this patient’s surgical risk?
   - 1 2 3 4 5 6 7
     Moderate       Very High

2. What type of intervention would you suggest?
   - 1 2 3 4 5 6 7
     Truss Belt/Operation
     Hernia Belt
     (watchful waiting)

3. You choose not to operate on this patient. Do you think he will be compliant with using his truss belt?
   - 1 2 3 4 5 6 7
     No       Yes
IX. Restraints

A 26 year old (black or white) man presents after being involved in a car crash at 1am. The patient smells of alcohol and is swearing profanities at you and everyone else. He was the restrained passenger in the car. He has some ecchymosis on his face. He is refusing to lie still for evaluation and is screaming at you. Regarding this man:

1. Do you think this patient is combative to the extent he is likely to hurt himself or staff members?

   1  2  3  4  5  6  7

   No       Yes

2. You have been talking with him in order to calm him down enough to complete your exam but he continues to use profane language. How likely are you to give an agent like Ativan or Haldol to calm him down?

   1  2  3  4  5  6  7

   Not Very Likely       Extremely Likely

3. How likely is it that you would call security to help restrain him?

   1  2  3  4  5  6  7

   Not Very Likely       Extremely Likely