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Patterns of Disrespectful Physician Behavior at an Academic Medical Center: Implications for Training, Prevention, and Remediation

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Ethical approval: Stanford School of Medicine Institutional Review Board determined that this study does not meet the federal definition of research or clinical investigation requiring IRB approval (June 3, 2014).

Previous presentation: Dr. Hopkins presented a brief preliminary report of the first two year of data to the Council of University Chairs of Obstetrics and Gynecology, May 4, 2013, New Orleans, Louisiana.
Abstract

Purpose: Physician disrespectful behavior affects quality of care, patient safety, and collaborative clinical team function. Evidence defining the demographics, ethnography, and epidemiology of disrespectful behavior is lacking.

Method: The authors conducted a retrospective analysis of reports of disrespectful physician behavior at Stanford Hospital and Clinics from March 2011 through February 2015. Events were stratified by role, gender, specialty, and location in the hospital or clinics where the event occurred. Event rate ratios were estimated using a multivariable negative binomial regression model. Correlation of rates of faculty and trainees in the same specialty were assessed.

Results: One-hundred-ninety-nine events concerned faculty; 160 concerned trainees. Events were concentrated among a small number of physicians in both groups. The rates of faculty and trainee events within the same specialty were highly correlated (Spearman’s rho: 0.90; P < .001). Male physicians had an adjusted event rate 1.86 (95% CI = 1.33 – 2.60; P < .001) times that of females. Procedural physicians were 3.67 times (95% CI = 2.63 – 5.13; P < .001) more likely to have a disrespectful behavior event than non-procedural physicians when adjusting for other covariates. Most common location for faculty was the operating rooms (69 events, 34%); for trainees, the medical/surgical units (43 events, 27%).

Conclusions: Patterns of physician disrespectful behavior differed by role, gender, specialty, and location. Rates among faculty and trainees of the same specialty were highly correlated. These patterns can be used to create more focused education and training for specific physician groups and individualized remediation interventions.
Physician disrespectful behavior is defined by The Joint Commission to include inappropriate words (insulting, intimidating, demeaning, humilitating, or abusive), shaming, unjustified negative comments and complaints, not working collaboratively, creating rigid or inflexible barriers to cooperation, and not returning pages promptly. Disrespectful behavior is also called disruptive, inappropriate, or unprofessional behavior, or described as lapses in professionalism. Disrespectful behavior is common in health care institutions. One survey reported 82% of nurses and 51% of physicians witnessing such behaviors. A systematic review found that 60–96% of members of the health care team had witnessed, had experienced, or had knowledge of disrespectful behavior during the past week or year. Over 90% of 516 first-year residents at an academic medical center reported witnessing disrespectful behavior, 54% experiencing it once a month or more. These behaviors have a deleterious impact on the care environment and health care team members experiencing disrespectful behavior by physicians develop coping strategies that distract them from their work. Disrespectful behavior by physicians has been identified as a “substantial barrier to progress in patient safety,” including having a negative impact on staff relationships, team collaboration, communication flow, and patient outcomes of care. Disrespectful behaviors also contribute to nurse dissatisfaction and the shortage of nurses. By one estimate this behavior adds $3 million additional cost annually to the average hospital due to staff turnover, and potentially much more if the costs of patient safety and loss of quality in patient care are considered.

A recent consensus conference emphasized the need for additional evidence to define the demographics, ethnography, and epidemiology of disrespectful behavior. The prevalence in cohorts of physicians and trainees (residents and fellows), and whether there are domains of disrespectful behavior that cluster, are both unknown. The purpose of this study was to describe
these patterns of disrespectful behavior events at an academic medical center. Details of these patterns can be used to create more focused education and training for specific physician groups as well as individualized remediation interventions.

Method

Data collection

In 2010, the medical staff of Stanford Hospital and Clinics adopted the Code of Professional Behavior and established the Committee for Professionalism (CFP) to promote professionalism and oversee the management of disrespectful behavior reports (see Supplemental Digital Appendix 1, available at http://links.lww.com/ACADMED/A521, which discusses how events are managed). We collected data between March 1, 2011, and February 28, 2015. Behaviors were reported via an online reporting system created by our institution, available on all hospital and clinic computer workstations. Any member of the health care team can enter a report concerning any occurrence that poses risk to patient safety. The reporter can remain anonymous. Data fields in this system for disrespectful behavior include the date of the event, physician name, location, and description of the event. We obtained the total number of faculty and trainees from the Dean’s Office and the Graduate Medical Education Office, respectively. Events were stratified by gender, specialty, role (faculty vs. trainees), type of specialty (procedural vs. non-procedural), and location; and we grouped locations by type of activity. Stanford School of Medicine Institutional Review Board (IRB) determined that this project does not meet the federal definition of research or clinical investigation requiring IRB approval.

We excluded reports from this study when a duplicate report of the same event was reported by more than one reporter; the event was found to concern a standard of practice question rather than disrespectful behavior; the event could not be confirmed as truly disrespectful behavior by
the medical director assigned to investigate the event or accounts of the event were so disparate that it was not possible to decide what actually happened; or the event was found to be a care system problem, not behavior.

Because pediatric and obstetric care are delivered in a separate children’s hospital we excluded any events involving physicians with appointments in pediatric and obstetric specialties or who had more than 95% of their clinical work in the children’s hospital. This hospital does not have a comparable event reporting system.

**Statistical methods**

We created tables and figures to describe the number and rate of events by various characteristics: the location and year of the event, gender of the reported physician, whether he or she was trainee or faculty, specialty, and whether the physician belonged to a procedural or non-procedural specialty.

All event rates are calculated as number of events per physician. The number of trainees and faculty of each gender in a specialty was provided by the Graduate Medical Education Office and the Dean’s Office respectively for each year. To allow meaningful comparisons between faculty who typically remain in the institution over the four years and the trainees who are more likely to enter or exit, we calculated rates as the number of events divided by the average number of physicians over the four years as the denominator.

We estimated event rate ratios using a multivariable negative binomial model regressing the event counts (with an offset for the number of physicians) on the following covariates: gender, an indicator of whether the physician was a trainee, an indicator of whether the physician belonged to a procedural specialty, and a term for each fiscal year to allow for a nonlinear effect.
of time. Correlation between faculty and trainees event rates by specialty were characterized by Spearman’s rank correlation.

We performed all data analysis in R statistical software, version 3.2.3. (R Foundation for Statistical Computing; Vienna, Austria). All statistical tests were two-sided and significance assessed at the 0.05 level.

Results

Reports

In the 4-year period from March 1, 2011, to February 28, 2015, there were an average of 1,207 faculty and 799 trainees (Table 1). We observed 450 reports concerning physicians’ disrespectful behavior. Of these, 6 (1.3%) were duplicate reports of the same event, 17 (3.8%) involved standard of practice questions, 48 (10.7%) could not be confirmed as true disrespectful behavior, and 20 (4.4%) were found to be a care system problem, not behavior. The remaining 359 (79.8%) events stemming from 220 physicians are the basis for this study. There were no reports concerning advanced practice providers (nurse practitioners or physician assistants) or medical students.

Among faculty, there were 199 (55%) events naming 106 physicians. The majority of faculty had only one or two events, although one had sixteen disrespectful behavior events (Figure 1). There were 160 events (45%) involving 114 trainees. Similar to the faculty, 92 (78%) had 1 event and only 11 (9%) had three or more events, with a maximum of five for a single trainee.

Event rates by gender

Among all faculty, males had an event rate of 0.22 events per physician while female faculty had an event rate of 0.07 events per physician (Table 1). One-hundred-six faculty were responsible for 199 (55%) events. Among these faculty, 166 (83%) events concerned 81 males; 25 female
faculty had 33 (17%) of the events. Among all trainees, there were 0.25 events per male trainee and 0.14 events per female trainee (Table 1). One-hundred-fourteen trainees were involved with 160 events; 111 (69%) events concerned 75 male trainees and 49 (31%) of events concerned 39 female trainees. Overall, male physicians (faculty and trainees) had an adjusted event rate 1.86 (95% CI = 1.33 – 2.60; \( P < .001 \)) times as high as females (Table 2). (See Supplemental Digital Appendix 2, available at [http://links.lww.com/ACADMED/A521](http://links.lww.com/ACADMED/A521), which shows rates by specialty and gender.)

**Events rates by specialty**

The largest number of faculty events involved physicians from medicine (n = 49, 25%), surgery (n = 38, 19%), and orthopedics (n = 37, 19%). The same three services had the highest number of events involving their trainees, with surgery (n = 50, 31% of events), medicine (n = 38, 24%), and orthopedics (n = 20, 13%) having the largest number of events. There were no events from neurology and 5 or fewer events from dermatology, gynecology, ophthalmology, pathology, radiation oncology, and urology (Table 3).

When these raw numbers were adjusted for the number of faculty in each service, orthopedics had the highest event rate (0.79 events/physician), followed by cardiothoracic surgery (0.41), otolaryngology/head and neck surgery (0.41), surgery (0.28), and neurosurgery (0.24). After accounting for the number of trainees in each specialty, cardiothoracic surgery had the highest rate of events per trainee (1.30), followed by neurosurgery (0.52), surgery (0.43), and orthopedics (0.38) (Table 3). The event rates among faculty and trainees within the same specialty were highly correlated (Spearman’s rho, 0.90; \( P < .001 \)) (Figure 2).

When procedural specialties were grouped (anesthesia, cardiothoracic surgery, gynecology, neurosurgery, ophthalmology, orthopedics, otolaryngology/head and neck surgery, surgery, and
urology) and compared using event rate ratios to non-procedural specialties (dermatology, medicine, neurology, pathology, psychiatry, radiation oncology, and radiology), procedural physicians were 3.67 times (95% CI 2.63 – 5.13; \( P < .001 \)) more likely to have a disrespectful event than non-procedural physicians when adjusting for other covariates (Table 2).

**Event locations**

Overall, the most common locations for events were the operating room (n = 78, 22% of all events) and the medical/surgical units (n = 71, 20%), followed by the intermediate intensive care units (n = 48, 13%) and procedural areas (n = 47, 13%). For faculty, the operating room was most common (n = 69, 35%); for trainees, the medical/surgical units (n = 43, 27%) were most common, followed closely by the intermediate intensive care units (n = 39, 24%) (See Supplemental Digital Appendix 3, available at [http://links.lww.com/ACADMED/A521](http://links.lww.com/ACADMED/A521), which shows events by location for faculty and trainees).

**Process improvements**

In 101 (28%) of the 359 events, process improvement opportunities were also identified by those evaluating the event. Examples included incomplete information about surgery schedules, equipment malfunction, pages to a physician not transmitted, or staff training needs. These were referred to the managers of the areas where the events occurred, and to the Quality Department.

**Discussion**

A multidisciplinary expert consensus conference has called for epidemiologic data on disrespectful behavior that can be used to design approaches to behavior problems. Among the needs are documentation of prevalence in cohorts of physicians and trainees (Residents and fellows), and whether there are domains of disrespectful behavior that cluster.\(^{15}\) Our data address these needs by providing comparable rates for subsets of faculty and trainees, showing locations
of events, and quantifying the relationship between behavior rates of trainees and faculty in the same specialty.

In our study events involving male physicians (faculty and trainees) were more frequent than females, a finding seen in studies using unadjusted comparisons.\textsuperscript{10,16-18} The gender make up of specialties is very different, with procedural specialties historically dominated by males.\textsuperscript{19,p13} These same specialties also have a preponderance of males in their training programs.\textsuperscript{19,p29} In our statistical model adjusting for procedural vs. non-procedural specialties (Table 2), we found a statistically significant difference in rates for male and female physicians.

The number of events varied greatly by specialty (Table 3). The specialties with the highest rates of events per provider were all procedural: orthopedic surgery, cardiothoracic surgery, surgery (including general, vascular, plastic, and trauma surgery), otolaryngology/head and neck surgery, and neurosurgery. A previous study of disrespectful behavior found that anesthesiologists and surgeons in orthopedics, trauma, and obstetrics and gynecology were more frequently reported than other specialists.\textsuperscript{17} Procedural physicians may differ from non-procedural physicians including their experience of operating room situational stressors, cultural conditions, and personality factors.\textsuperscript{8,20,21} Focusing on the elements unique to procedural physicians is recommended in the design of programs to mitigate disrespectful behavior. These include better communication, conflict management, team training, and transformation of a culture of unchecked power.\textsuperscript{20} Improving team functioning based on models from other industries is being successfully applied in operative and emergency department settings; Crew Resource Management\textsuperscript{22,23} and TeamSTEPPS\textsuperscript{24,25} are two examples.

Of interest, the specialties with the highest rates of disrespectful faculty events also had the highest rates of events involving trainees. These rates were highly correlated (Spearman’s rho:
0.90; $P < .001$; Figure 2). This suggests common factors occurring for both groups, including culture, common stressors, or modeling of behavior by faculty physicians. A culture or tolerance of disrespectful behavior has been shown in medical students, residents, and faculty. This may be related to the loss of idealism and empathy during training; the reinforcement of hierarchies in medicine; reluctance of colleagues and leaders to confront physicians with disrespectful behavior; and the prevailing clinical culture and power structure, favoring physician privilege and autonomy.

Residents learn professionalism through exposure to role-models. The socialization of the learner constitutes the “hidden curriculum” first described by Jackson and later applied to medical training by Hafferty. It is “a set of commonly held understandings, customs, rituals and taken-for-granted aspects in the clinical setting” that faculty model each day. Faculty from several specialties in a focus group study emphasized the importance of role models in teaching professionalism. Yet they identified several personal shortcomings that detracted from optimal modeling and a need for more organizational support and training in professionalism.

Our study found that 44.6% of behavior events concerned trainees, emphasizing the importance of addressing professionalism in training. There have been few studies of the prevalence of disrespectful behavior in trainees. A review of 51 studies summarized the prevalence of various types of dishonesty among residents but did not address disrespectful behavior. A 10-year retrospective study of surgery residents found 66 complaints concerning 29 individuals among 110 residents. Poor professional conduct, not further defined, was mentioned in 83% of the reports. Residents in pediatric surgery, cardiothoracic surgery, surgical oncology, and trauma surgery were most commonly cited. In another study, a retrospective review of a subset of 17 surgery residents with performance problems found 2 with disrespectful behavior. Problems in
relationships with other health care workers occurred in 11 residents.\textsuperscript{35} In a mailed survey, internal medicine program directors reported a mean prevalence of 6.9% problem residents. Disrespectful interactions with colleagues and staff occurred more than half the time in 39% of problem residents.\textsuperscript{36} We could find no longitudinal study to determine if the same individuals at successive levels of training and practice have persistent disrespectful behavior. The distribution of events in our study was highly concentrated in a small number of trainees and faculty (Figure 1). Only 18 faculty and 11 trainees had 3 or more events. A similar pattern among practicing physicians has been reported in two other studies.\textsuperscript{17,37} Identifying these physicians early and focusing more intensive, individualized evaluation and corrective measures for them seems to be necessary,\textsuperscript{38-40} including evaluation for underlying psychological disorders.\textsuperscript{18,41} However, the impact of remediation for repeated disrespectful interactions with other health professionals has not been systemically studied.\textsuperscript{15}

We found the events to be widely distributed throughout the hospital and clinics (see Supplemental Digital Appendix 3, available at http://links.lww.com/ACADMED/A521, which shows locations for events for trainees and faculty), with the highest percentages in operating rooms and on patient care floors (including intermediate care units). Notably, the principal locations differed for faculty and trainees, with faculty events occurring most commonly in the operating rooms. The predominance of events in the procedural areas may be related not only to the intensity of interactions and the stress levels as previously discussed, but also to prolonged interaction and interdependence among caregivers in these areas.\textsuperscript{20,42} In contrast, more events involving trainees occurred on patient care units, where most of the direct physician patient care activities are performed by trainees. The more common locations of events and the typical triggers in these settings provide direction for more focused professionalism and team training,
employing role-play, training films, clinical vignettes, or simulations focused on high risk locations and triggers associated with each group and setting.\textsuperscript{22,39,43,44}

Process improvement opportunities were found in 101 (28\%) of the events. These likely contributed to the frustration of the physician involved. Thus, both a behavioral and systems view of professionalism is needed.\textsuperscript{45,46} Triggers for disrespectful behavior include intrapersonal factors such as fatigue or incompetence; interpersonal factors, including lack of leadership or teamwork; and organizational factors including pressure from excessive workloads or unresolved systems issues.\textsuperscript{45,46} An analysis of 200 physicians referred to a physician assessment program identified stress from several sources as an underlying precipitant, along with anxiety and depressive disorders.\textsuperscript{18} A discussion of triggers and how to deal with them should be part of professionalism training.

There are several limitations of this study. First, this is a retrospective observational study, and it reports the experience of a single institution; thus, the results may not be broadly applicable to other institutions with different cultures. Second, the number of events likely underestimates the prevalence of disrespectful behavior in the institution and is subject to the bias of the reporters. Barriers to reporting include intimidation, fear of retaliation, skepticism that anything will be done, doubts about confidentiality, concern about impact on the future relationship with the physician, and peer pressure.\textsuperscript{12} Physicians usually recall who was involved in an event, making anonymity limited. Third, we were not able to include pediatricians, pediatric subspecialists, or obstetricians in this study due to the scope of services in our hospital.

**Conclusions**

Improving physician professionalism requires education beginning in medical school and reinforcement throughout and after postgraduate training. Our findings add to the understanding
of the prevalence and clustering of disrespectful behavior by gender, specialty, locations, and faculty vs. trainee roles, providing greater detail than previously reported. The high degree of correlation between event rates of trainees and faculty has not been previously quantified. In educational settings, modeling by faculty is especially important, as event rates of disrespectful behavior by trainees are highly correlated with faculty event rates in the same specialties. Disrespectful behavior is more common in several demographic groups of physicians. The patterns of disrespectful behavior by gender, specialty, and location within the hospital can guide the design of more focused education and training for particular groups of physicians and individualized remediation interventions. A small proportion of faculty and trainees accounts for most of the recurring behavior. The low number of physicians displaying the more serious, repeated disrespectful behavior requires further study at other institutions to determine how common this pattern is. Future research is needed to address which interventions will be most successful at decreasing triggers and patterns of disrespectful behavior, and provide further insights into the design of effective education and training.
References


Figure Legends

Figure 1
Distribution of the number of disrespectful behavior event reports for each physician by gender, Stanford Hospital and Clinics, March 1, 2011, to February 28, 2015. Panel A: trainees; Panel B: faculty. Abbreviations: M indicates male; F, female.

Figure 2
Observed disrespectful behavior faculty events rates vs. trainee event rates by specialty, Stanford Hospital and Clinics, March 1, 2011, to February 28, 2015. The diagonal line indicates equal rates between faculty and trainees. Specialties above the diagonal line had higher rates for faculty and specialties below the line had higher rates for trainees. The rates of faculty and trainees in the same specialty are highly correlated (Spearman’s rho: 0.90; P < .001). Note that the axes are displayed using a logarithmic scale to clearly display rates when many of the rates were small.
Table 1

Number and Overall Rates of Physician Disrespectful Behavior Events, Stanford Hospital and Clinics, March 1, 2011, to February 28, 2015

<table>
<thead>
<tr>
<th>Summary</th>
<th>Trainees</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Average physicians per year, no.</strong></td>
<td>799</td>
<td>1,207</td>
</tr>
<tr>
<td>Females</td>
<td>356</td>
<td>458</td>
</tr>
<tr>
<td>Males</td>
<td>443</td>
<td>749</td>
</tr>
<tr>
<td><strong>Number of events</strong></td>
<td>160</td>
<td>199</td>
</tr>
<tr>
<td>Females</td>
<td>49</td>
<td>33</td>
</tr>
<tr>
<td>Males</td>
<td>111</td>
<td>166</td>
</tr>
<tr>
<td><strong>Overall rates, events/physician</strong></td>
<td>0.20</td>
<td>0.16</td>
</tr>
<tr>
<td>Females</td>
<td>0.14</td>
<td>0.07</td>
</tr>
<tr>
<td>Males</td>
<td>0.25</td>
<td>0.22</td>
</tr>
</tbody>
</table>
Table 2

Model Estimates for Physician Disrespectful Behavior Events From a Multivariable Negative Binomial Regression Model, Stanford Hospital and Clinics, March 1, 2011, to February 28, 2015

<table>
<thead>
<tr>
<th>Covariate</th>
<th>IRR</th>
<th>95% CI</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trainee vs. faculty (ref.)</td>
<td>1.27</td>
<td>0.93, 1.75</td>
<td>.14</td>
</tr>
<tr>
<td>Procedural vs. nonprocedural (ref.)</td>
<td>3.67</td>
<td>2.63, 5.13</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Male vs. female (ref.)</td>
<td>1.86</td>
<td>1.33, 2.60</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Year</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011 (ref.)</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>1.02</td>
<td>0.66, 1.57</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>0.83</td>
<td>0.54, 1.29</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>0.60</td>
<td>0.38, 0.95</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: IRR indicates incidence rate ratio; CI, confidence interval; ref., reference level.
Table 3

<table>
<thead>
<tr>
<th>Specialty</th>
<th>No. events</th>
<th>No. Physicians</th>
<th>Events/Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Trainees</td>
<td>Faculty</td>
<td>Trainees</td>
</tr>
<tr>
<td><strong>Procedural</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anesthesia</td>
<td>113</td>
<td>136</td>
<td>352</td>
</tr>
<tr>
<td>CT surgery</td>
<td>12</td>
<td>22</td>
<td>91</td>
</tr>
<tr>
<td>Gynecology</td>
<td>2</td>
<td>3</td>
<td>21</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>9</td>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>OHNS</td>
<td>4</td>
<td>12</td>
<td>22</td>
</tr>
<tr>
<td>Ophthalmology</td>
<td>1</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>20</td>
<td>37</td>
<td>52</td>
</tr>
<tr>
<td>Surgery</td>
<td>50</td>
<td>38</td>
<td>117</td>
</tr>
<tr>
<td>Urology</td>
<td>1</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td><strong>Non-procedural</strong></td>
<td>47</td>
<td>63</td>
<td>447</td>
</tr>
<tr>
<td>Dermatology</td>
<td>0</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Medicine</td>
<td>38</td>
<td>49</td>
<td>211</td>
</tr>
<tr>
<td>Neurology</td>
<td>0</td>
<td>0</td>
<td>26</td>
</tr>
<tr>
<td>Pathology</td>
<td>0</td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>4</td>
<td>3</td>
<td>57</td>
</tr>
<tr>
<td>Radiation oncology</td>
<td>0</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>Radiology</td>
<td>5</td>
<td>7</td>
<td>70</td>
</tr>
</tbody>
</table>

Abbreviations: CT indicates cardiothoracic; OHNS, otolaryngology head and neck surgery.

*Physicians is the average number of physicians over the four years.
Figure 1a

Number of trainees vs. Number of events for different genders:
- M (n = 75)
- F (n = 39)
Figure 1b

Number of events

Number of faculty

Gender

M (n = 81)

F (n = 25)
Figure 2

The graph illustrates the rate of certain medical specialties, categorized as either "Non-procedural" or "Procedural", in both faculty and trainees. The y-axis represents the faculty rate (events/physician), while the x-axis shows the trainee rate (events/physician). Specialties such as Radiation oncology, Gynecology, Ophthalmology, Psychiatry, and Neurology are plotted with different markers to distinguish between categories. Specialties labeled with "OHNS" and "CT surgery" are also included in the graph.