# Critical Events in the Lives of Interns

*Alexandra Ackerman, MD[1,5], Mark Graham, Ph.D.[2], Hilary Schmidt, Ph.D.[3], David T. Stern, M.D., Ph.D.[4], and Steven Z. Miller, M.D.[1]*

[1]Department of Pediatrics, Columbia University Medical Center, New York, NY, USA; [2]Center for Education Research and Evaluation, Columbia University Medical Center, New York, NY, USA; [3]Sanofi-Aventis Pharmaceuticals, Bridgewater, NJ, USA; [4]Department of Internal Medicine, University of Michigan Medical School and the Ann Arbor VA Healthcare System, Ann Arbor, MI, USA; [5]Department of Pediatrics, Columbia University College of Physicians and Surgeons, New York, NY, USA.

***BACKGROUND:*** Early residency is a crucial time in the professional development of physicians. As interns assume primary care for their patients, they take on new responsibilities. The events they find memorable during this time could provide us with insight into their developing professional identities.

***OBJECTIVE:*** To evaluate the most critical events in the lives of interns.

***PARTICIPANTS:*** Forty-one internal medicine residents at one program participated in a two-day retreat in the fall of their first year. Each resident provided a written description of a recent high point, low point, and patient conflict.

***MEASUREMENTS:*** We used a variant of grounded theory to analyze these critical incidents and determine the underlying themes of early internship. Independent inter-rater agreement of >90% was achieved for the coding of excerpts.

***MAIN RESULTS:*** The 123 critical incidents were clustered into 23 categories. The categories were further organized into six themes: confidence, life balance, connections, emotional responses, managing expectations, and facilitating teamwork. High points were primarily in the themes of confidence and connections. Low points were dispersed more generally throughout the conceptual framework. Conflicts with patients were about negotiating the expectations inherent in the physician–patient relationship.

***CONCLUSION:*** The high points, low points, and conflicts reported by early residents provide us with a glimpse into the lives of interns. The themes we have identified reflect critical challenges interns face the development of their professional identity. Program directors could use this process and conceptual framework to guide the development and promotion of residents' emerging professional identities.

*KEY WORDS:* interns' lives; early residency; critical incidents.
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## INTRODUCTION

Internship is an intense and formative period in the life of a physician. In the first few months of residency, interns must assume a new role and a concomitant set of responsibilities and expectations. How do their daily experiences contribute to their emerging professional identities?

Professional identity development of physicians has been a subject of research since the 1950s.[1,2] From that research we know that there are key developmental goals which medical students must achieve, such as accepting responsibility and managing uncertainty.[2] Curricular experiences can have profound effects on the development of professional identity, and on the internalization of ethics and values.[3–5] For example, the ward-culture,[6] the presence of good and/or bad role models,[7] the emotional experiences of learners[8] and the specialty and practice environment[9,10] can influence the developing identities of residents. In order to facilitate professional identity development, program directors must gain an in depth understanding of the experiences of interns.

Educators have described a number of individual and group methods which allow them to gain insight into residents' lives.[11,12] Written narratives, both expository writing[13,14] and critical incident reports[8,15,16] can provide a useful perspective on professional development. In the critical incident technique researchers ask participants to describe a meaningful event, or an interaction from their personal experience.[17] While limited by recall bias, these narratives nevertheless reflect what is most memorable to the participants. Thus the strength of this method lies in both the narratives it produces, and in the implicit importance given to these narratives by those who write them. This technique has been used in medical education research to better understand the experiences,[15,16] the emotions[8,18] and the emerging perceptions of professionalism[19] of medical students and residents.

Early residents are wrestling with the role transition from dependent to autonomous, from accountable to responsible, from learner to teacher, from supporter to leader. We sought to use critical incident reports to build a conceptual framework for these critical events and to understand how residents think about them. Once identified through qualitative analysis, these themes could provide us with a window into the identity development of interns. The resulting conceptual framework could then inform future educational design and interventions.

## METHODS

***Context.*** Forty-one internal medicine PGY-1 residents, both categorical and transitional at New York Presbyterian Hospital

– Columbia participated in a two day off-site retreat in October 2002. The session on professionalism and humanism was organized and facilitated by one of the authors (SZM). It included reflections about interactions with patients (both from the author's own experience and anecdotes from others), a discussion about how to manage the sense of being pulled in many directions at once, as well as an acknowledgment of the difficulties of living up to the image of the ideal physician. The session ended with a discussion of the characteristics of an ideal physician. The study was conducted in New York after the 1989 Bell Commission duty limitations of 80 hours per week, but prior to the implementation of further ACGME regulations in 2003.

***Data Collection.*** As part of this session, residents were given 15 minutes to respond in writing to the following questions, with 1/2 of a page allocated for each response:

1) Describe the highpoint of your internship so far. If it is an event, please describe what you were thinking at the time.
2) Describe the low point of your internship so far. If it is an event, please describe what you were thinking at the time.
3) Describe a conflict that you believe you had with a patient. What were you thinking at the time? How would you describe your reflections after the fact?

The Columbia University Medical Center Institutional Review Board (IRB) retroactively approved the data collection process and analysis for research purposes. Upon completion of this discussion, the facilitator invited the residents to submit these anonymous forms for research purposes. Participation was voluntary, no incentives were provided, and all 41 residents submitted forms. There were three residents who expressed that their responses be kept confidential, and these are not quoted in the results. Written response forms were collected and entered into an NVivo database (QSR International Pty Ltd., Melbourne, Australia).

***Analysis.*** Response forms were analyzed using a variant of grounded theory.[20] A sample of 14 responses was initially read by one investigator (SZM) who identified emergent themes and developed a preliminary coding scheme. In a group process, two additional investigators (MG, AA) worked with the first investigator (SZM) to identify additional codes using an iterative consensus building process. Each segment of text was then analyzed for one or more codes. Categories were further detailed and subdivided or revised and deleted. When consensus was reached with this sample, the remaining questionnaires were jointly coded by the three investigators. To provide further validation of the coding scheme, the entire data set was sent to an external reviewer (DS) who made suggestions for alterations in coding. After revision of the coding scheme by all researchers, the external reviewer coded sequential 10% subsets of the data, until independent inter-rater reliability was achieved (>90%). Once coding was complete, we clustered the data into themes which were reviewed and re-organized in an iterative fashion to build a conceptual framework. As a check of our grounded theory approach and subsequent content analysis, this framework was submitted for open critique to two external reviewers with experience in residency education, and at a workshop with early interns; no further edits were suggested.

## RESULTS

The 41 interns provided a total of 123 critical incidents. Of these, 118 could be coded and were placed into 23 categories. Because some critical incidents were coded into multiple categories, there were a total of 137 codes identified in the dataset: 44 codes from high point excerpts, 49 from low point excerpts, and 44 from conflicting event excerpts. We further grouped these 23 categories into six themes. These themes include the following: confidence (n=38), life balance (n=14), connection (n=20), emotional response (n=8), managing expectations (n=43), and facilitating teamwork (n=14). (See Table 1)

### Building Confidence

We found 38 incidents in this theme, including 15 from high point incidents and 23 from low point incidents. The five categories of experiences within this theme related to clinical abilities, including the ability to: 1) to get work done, 2) to apply medical knowledge, skills, and judgment, 3) to work with less supervision, 4) to accept the job description of being an intern, and 5) to be an effective intern. High points for these residents were associated with mastering their clinical skills in the setting of direct patient care.

> I can diagnose my co-intern's patient's acid-base disturbances. I thought—hey I'm pretty smart and that may be of some benefit to patients in the future.

In contrast, low point incidents reflected moments in which the interns felt incompetent or unable to master the medical knowledge and clinical skills required of an intern.

> 9 a.m. on day 1 when asked by resident "so you've been here since 5:30 a.m. what have you gotten done?" My answer: "Nothing, really nothing." (I couldn't even figure out who my patients were)

Events which provide interns an opportunity to master clinical skills are particularly memorable. At the same time, when they are frustrated by their lack of knowledge, experience, or effectiveness, their confidence can be undermined. This frustration can lead them to doubt their own abilities and emerging sense of themselves as physicians. As interns process these clinical events, they appear to be developing or eroding their confidence and independence as a physician.

### Life Balance

Residents described efforts to balance the demands of work with their personal lives as both high points (n=6) and low points (n=8) of internship. When thinking about the low points of their early experiences, interns expressed a set of concerns about their lives outside the hospital, their personal relationships, and the issue of sleep deprivation.

> I was post-call on a Q2 schedule, having slept a collective 6 hours over the previous 3 nights... I realized in a panic that I did not have keys to my apartment... I... went for my cell phone to call my sister... but in my sleepless stupor, I had forgotten my cell phone too. I

Table 1. Categories and Themes of Critical Incidents in Early Internship

| Theme | Confidence (n=38) | Life balance (n=14) | Connection (n=20) | Emotional response (n=8) | Expectations (n=43) | Teamwork (n=14) |
|---|---|---|---|---|---|---|
| Critical incident categories | Ability to get work done | Life outside the hospital | Connect with patient | Vulnerable to death/dying | Patient wants specific actions by MD (treatment, diagnostic test, length of stay) | Team interaction |
| | Medical knowledge, skills and judgment | Interpersonal relationships | Connect with patient's family | Numb and hardened to suffering | MD wants specific actions by patient (compliance, length of stay) | Disagree with patient management |
| | Lack of supervision | Sleep deprivation | Positive reinforcement from patients | Saddened by patient outcome | Family wants specific actions by MD | Frank disrespect to intern |
| | Job description | | Disrespect to patient | Unable to help patient | MD feels mistreated by patient | |
| | Ability to be an effective intern | | | | | |
| High points (n=44) | 15 | 6 | 18 | 0 | 0 | 5 |
| Low points (n=49) | 23 | 8 | 2 | 8 | 4 | 4 |
| Conflicts (n=44) | 0 | 0 | 0 | 0 | 39 | 5 |

> walked to the phone booth... [and] called my boyfriend, who was en-route to Washington DC for the weekend (I had forgotten it was Friday). Next I called my sister who was ALSO en route to Washington DC. For the next 10 minutes I cried and cried and cried in the phone booth in my dirty scrubs. I was incredibly miserable. I hated my life. I hated being a doctor. I wanted to be en route ANYWHERE.

The high points reflect an acceptance of the long hours and demanding schedule and the discovery of pleasure in brief times away and breaks from work.

> The high point was really a day off, going to [somewhere] with my friend from a long time and getting away from the hospital.

These data are collected in New York after the Bell Commission requirements which limited duty hours to 80 per week, but one year before further regulations from the ACGME. Still, one can see the deep emotional impact of the interns' long hours and lack of sleep in the hospital. These physical challenges put a strain on the personal lives of residents. In these critical incidents, we see interns struggling with the task of balancing the demands of internship with their lives outside the hospital.

## Creating Connections

Residents often identified the ability to create a connection with patients or families as a critical event in their lives (n=20). Nearly all these events were high points, but two residents described low point about a loss of connection with patients. In the following example the resident describes his frustration and anger with a patient.

> At times I resented him because he tormented the nurses, and they in turn paged me every ten minutes, and he refused almost every medical intervention. Then he would verbally abuse me and everyone everyday so I started seeing him last and towards the end I would sometimes argue back with him and become so mad I'd storm out of the room.

Creating meaningful positive connections with patients and their families were the most common (n=18) high points for interns, and represent some of the most important moments for these young doctors.

> Diagnosing a patient with PCP and seeing her improve clinically with appropriate treatment—being able to provide comfort to her and give reassurance to her. Realizing that being kind/providing comfort to a patient is just as important in medicine (from the patient's perspective) as providing [an] appropriate medical regimen.

Some patients expressed this connection by providing direct positive reinforcement (n=8) for the efforts of interns.

> "When a patient in a clinic told me he had been praying for a doctor like me. I know he was exaggerating, but it made me feel good. I hadn't received any positive reinforcement, I needed that.

In these excerpts, we see how interns begin to understand how personal connections may be as important as the technical aspects of being a doctor. In contrast, negative patient interactions lead them to reflect on ways to maintain a professional stance in the face of interpersonal conflict. Interactions with patients and their families are a rich source of learning for interns and result in some of the most formative experiences in their developing professional lives.

## Emotional Response to Patients

The eight critical incidents coded into this theme were all low points involving residents acknowledging the myriad of emotional responses they may have in their interactions with patients. Categories for these for low points are those when interns express their feelings of vulnerability to death and dying, numbness and hardening to suffering, sadness about a patient outcome or inability to help a patient.

> I had a 26 year old patient, female, just like me, Ivy League graduate, beautiful successful, accountant, engaged to be married. She was admitted for a recurrent hemorrhagic pericarditis.... On the night before her pericardiocentesis, we talked for awhile... I met her family. On [the next] day she left for the OR—she was supposed to come back, but she never did. Once they opened the pericardium, she bled like crazy, her heart ruptured... I was devastated by this outcome.

In a case with a difficult patient, one resident acknowledged her reactions but also realized that she needed to maintain a humanistic stance.

> [I was] trying to treat an inpatient who clearly needed medical treatment while he was mimicking me and trying to provoke me. I stood there taking the abuse finding solace in the fact that this 29 year old would probably die soon. Probably not the best moment looking back on it.

Residents are often challenged by difficult and emotional patient encounters. The challenge associated with these situations revolves around how to acknowledge, accept, and incorporate ones own personal emotional response into the professional care of patients. Residents may identify with certain patients intensifying their emotional response, or may have negative emotional reactions to patients who are difficult to care for. Part of the development of a secure professional identity involves learning how to manage these powerful emotions as they arise.

## Managing Expectations

In the data collection phase of this study, the questions about high points and low points were open-ended. In contrast, the third question specifically asked about a conflict with a patient. We, therefore, would not expect to find critical incidents from this question to revolve around personal or inter-professional conflicts. That said, in five of the excerpts on conflicts, interns chose to talk about conflicts within the team (see *Teamwork*, below). The vast majority of conflicts expressed by interns (n=39) and some of the low point excerpts (n=4) were about managing the differing expectations of doctors and patients. Many of these conflicts occur when the patient or family wants the physician to perform specific diagnostic tests, to administer specific medical treatments, or to vary the length of their hospital stay. Conflicts also arise when the physician wants the patient to comply with a medical regimen, a diagnostic procedure, or discharge planning.

> A man with end-stage AIDS, clearly drug seeking... screamed at me in the middle of the ER that he did not want some young intern treating him after I refused to give him narcotics.

In the extreme of mismatched expectation, situations can arise in which the physician feels unappreciated, abused, or even violated by the patient.

> After clinic, I was all set to drive to the wedding of my college roommate. I reached into my bag to find my wallet to buy a soda for the trip but... [m]y wallet was gone. The only time my bag had been out of my sight was when I had left it in the clinic exam room to present a patient, leaving the bag alone in the room with the patient. My only conclusion could be that one of my patients had taken it from my bag.

Both patients and physicians bring a set of pre-established expectations to their interactions. Patients expect caring and competence from their physicians; physicians would like to be respected and appreciated by their patients. In these excerpts, we see residents trying to maintain their identity as a doctor in the face of these mismatched expectations.

## Facilitating Teamwork

Interpersonal relationships in the hospital are not limited to those with patients alone. Fourteen critical incidents were about hospital teams, nearly equally distributed among high points,[5] low points[4] and conflicts.[5] In this category, interns discussed team interactions, team disagreements about patient management, and situations where team members were openly disrespectful to interns. Lack of cooperation and team participation was a common concern:

> The low point was returning to rounds at 5 p.m., then having my resident give me another 100 things to do on top of the 100 things she/he gave me to do before clinic, then realizing that she/he probably could have done 50 or 75 of those things while I was at clinic but **did nothing**.

In contrast, when team interactions are positive, the learning environment is enriched as in this example of an intern asking for help with a patient on night float:

> I remember feeling panicked and stressed when I first went to see the patient. I walked out of the room in a daze and saw the two other interns on night float there. They helped me talk through the situation and get the tests ordered and sent. I remember feeling scared yet calm and protected.

With the quantity of work and attention to detail necessary for high quality medical care, the ability to see oneself as part of a well-functioning team is essential for developing professional identity. When teams work poorly, it leads to lack of collegiality, disappointment, and frustration with medical practice. The close interactions between residents and other members of the healthcare team provide rich opportunities for reflection on the role of teamwork in the professional lives of doctors.

## CONCLUSIONS

The high points, low points, and conflicts reported by early residents provide us with insight into the development of their professional identities. These critical incidents fall into six thematic categories. These include the following: building confidence in their clinical knowledge and skills, striving to balance their professional and personal lives, creating connections with patients and families, recognizing their emotional responses to patients, managing expectations, and facilitating teamwork.

High points primarily clustered in the categories of developing confidence in their knowledge and skills and fostering connections. In contrast, low points were dispersed more generally throughout the conceptual framework. The conflicts with patients were predominantly about negotiating the expectations inherent in the physician–patient relationship.

Several of the themes we uncovered from these critical incidents have been described in prior research. Nearly 50 years ago, Renee Fox identified two goals for medical students: developing responsibility and dealing with uncertainty.[2] More recently, Baernstein et al.[21] identified major content areas for medical student professionalism including independence, coping, hierarchy, and relationships with patients and colleagues. We found similar categories in our study of residents, however we have situated them at two levels—the content of the critical incident (e.g., medical knowledge, skills, and judgment), and the related theme (e.g., building confidence).

Kasman et al.[8] identified triggers for positive and negative emotions among two ward teams. There is significant overlap with clusters which we identified (i.e., connection with patients, patient's suffering and lack of control). Highly emotional events are likely to be memorable and chosen as critical incidents. Thus the overlap is not surprising. However, our conceptual framework was based on the experiences of the interns and contains additional themes not necessarily related to emotions (e.g., teamwork).

Ratanawongosa et al.[22] studied residents from three specialties at three hospitals who were asked to identify barriers and promoters of professionalism. Time constraints, workload, and interactions with challenging patients were the most common barriers. These aspects of resident life correspond to several of the low points identified in our study. Promoters of professionalism included role modeling by faculty and support from colleagues, which correspond to several of the high points in our research.

Levine et al.[23] asked 32 residents from eight institutions to respond to an email query about their personal growth six times in the PGY-1 year and identified experiences that were promoters and barriers to "personal growth." Barriers included fatigue, lack of personal time, and overwhelming work. Supportive relationships were identified as a promoter of personal growth. These factors were seen in their conceptual framework as balancing one another; promoting experiences lead to personal growth, and barrier experiences lead to impaired personal growth.

In our study, the critical events identified by residents are similar to the two studies quoted above. However, our interpretation of their developmental meaning is different. We do not see positive or negative experiences as necessarily promoting or inhibiting personal growth. In fact we believe that either could be equally effective in creating positive change. For example, the challenge of an overwhelming workload could lead to an improved ability to balance work and personal life. What we see as critical to such growth, however, is the extent to which the interns are 'aware' about what they are thinking and doing in relation to their patients and their colleagues. Not being aware allows for no insight into personal growth about their identity development as physicians.

Similarly, Levine identified a related, yet theoretically distinct concept —*reflection*—as a promoter of personal growth. In our study, we found some residents who wrote about their reflections, and others who did not. For that reason, our conceptual framework places the *themes* at a different level, and represents our belief that all resident critical experiences could lead to reflection and identity formation.

The themes which we have identified might also represent developmental tasks for the interns. Kegan outlines a theory of adult development as a continuing process of differentiation and integration.[24] As part of his theory, the ability to see experiences from multiple perspectives reflects a higher stage of adult development. As we have described, managing expectations was the theme of the critical incidents which described conflicts with patients. The expectations were not only those of the patient, but those of the intern. Following from this, if the interns are able to understand the multiple perspectives which come into play during interactions with patients, they will be able to effectively manage these interactions. This may represent a developmental task for the interns.[25,26]

This research provides residency program directors with common language and a conceptual framework for addressing critical events in the lives of early residents. Specifically, program directors could do the following:

- Perform this critical incident exercise at a noon conference or at a retreat three months into residency. This will allow interns to reflect on their experiences and recognize the themes common to becoming a successful resident.
- Use these themes as a focal point for discussion during midyear program director meetings to develop interventions for the subsequent months.
- Use the aggregated data to identify focal areas for quality improvement and accreditation purposes.
- Further develop this method into a structured tool for use at regular intervals in collecting and comparing resident-level feedback on the program itself.

Although internship is a time of intense learning, engaging in this exercise may have a substantial impact on decreasing the stress and depression that some interns experience during residency.[27–29] These initiatives could help interns navigate the initial months of internship with greater ease.

This study is limited by the sample strategy from one class of interns from one internal medicine residency program. While the conceptual framework was internally and externally

validated, further refinement and validation are necessary. Critical incidents from internal medicine interns at other medical centers would provide such validation. In addition, the critical incident technique provides only a brief glimpse into the lives of residents. Prior research has shown that one-on-one interviews of medical students can elicit more in-depth comments than critical incident reports.[21] It is possible that future studies using interviews, participant observation, and surveys could provide further elaboration of this conceptual framework.

Further studies could investigate whether these developmental themes have shifted by the end of the intern year. Kasman et al.[8] showed that certain themes exist along the continuum of practice (e.g. medical student through attending). Furthermore, as professional roles and responsibilities continue to evolve, new themes might replace those identified in our framework.

Early residency is a crucial time in the professional development young physicians. Interns reported on their most rewarding and most challenging experiences during their first months of residency. Our research using the critical incident technique uncovered a set of themes which fit into a conceptual framework representing formative events in the lives of interns. An exploration of these themes may allow program directors to foster residents' emerging professional identities.

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***Corresponding Author:*** *Alexandra Ackerman, MD; Department of Pediatrics, Columbia University College of Physicians and Surgeons, 630 West 168th Street, New York, NY 10032, USA (e-mail: alack97@yahoo.com).*

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