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Remaking surgical socialization: Work hour restrictions, rites of passage, and occupational identity

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ABSTRACT

We examine how a policy aimed at improving patient safety by limiting residents' work hours brought with it an unintended and unexamined consequence: *altered* socialization due to modified rites of passage during residency that endangered the stereotypical "Surgical Personality" and created a potential rift between the occupational identities of surgical residents who train under duty hour regulations and those who trained before they were imposed. Through participant observation occurring between June 2008 and June 2010, in-depth interviews ($n = 13$), and focus groups ($n = 2$), we explore how surgical residents training in four U.S. hospitals think about the threats that the shift from unrestricted to restricted duty hours creates for their claims of competence and professionalism. We identify three types of resident responses: (1) neutralizing statements that deny any significant change to occupational identity has occurred; (2) embracing statements that express the belief that a changed and more balanced occupational identity is needed; and (3) apprehensive statements that expressed fear of an altered occupational identity and an anxiety about readiness for individual practice.

Introduction

Duty hour regulations

In 2003, the Accreditation Counsel for Graduate Medical Education (ACGME) implemented duty hour regulations (DHR) that for the first time limited work hours for residents in all specialties. The regulations emerged as the result of pressures for reform from multiple sources. An accumulating body of research demonstrated the adverse impact of sleep deprivation on the performance of residents (Koslowsky & Babkoff, 1992; Landrigan et al., 2007; Samkoff & Jacques, 1991; Veasey, Rosen, Barzansky, Rosen, & Owens, 2002; Weinger & Ancoli-Israel, 2002). This research highlighted two negative impacts: problems sustaining concentration to support complex cognitive decision making or delicate control of fine motor functioning, both of which compromised patient safety, and risk of injury or death to residents or other innocent motorists while driving home fatigued (Lockley et al., 2007). In the midst of public concern about harm to patients from preventable adverse events, documented by the Institute of Medicine's report, *To Err is Human*, the ACGME presented DHR as a measure to promote patient safety and resident well being (ACGME, 2002; Kohn, Corrigan, & Donaldson, 2000). In addition, the ACGME's policy pre-empted political pressure from groups lobbying for federal regulation of duty hours (Evans, 2002; Gurjala et al., 2001; U.S. Congress, 2001: H.R. 3236) and helped allay public concerns about fatigued residents causing them harm.

The 2003 regulations stipulated that residents must work no more than 80 h per week, averaged over a four-week period, and also limited the number of consecutive work hours to 30. Recent ACGME rules include a significant revision that limits consecutive work hours to 16 for first year residents (ACGME, 2011). The ACGME stated that prior to regulations, duty hours were "the highest for general surgery, obstetrics-gynecology, surgical subspecialties and anesthesiology" (ACGME, 2002: p. 1). In those specialties in which residents previously labored the longest, DHR create the potential for greatest social and cultural adjustments to the organization of work.

Despite abundant research on the effects of DHR, measuring the overall impact of DHR is complicated. While shorter hours help residents be more alert when working, shorter hours also require more frequent hand-offs between residents, which can thwart continuity of care, increasing the possibility of important patent information being lost.

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Research evidence is inconsistent about DHR's effect on patient mortality (Shetty & Bhattacharya, 2007; Volpp & Landrigan, 2008; Volpp et al., 2007), but Volpp (2008: p. 2581) writes, "most studies have found that resident duty hour reform has not had much effect on patient deaths." The overall net gain or loss from DHR implementation remains unclear, and work hour reform is part of a "Delicate Balance" along with other important factors, like resident education, patient safety, and workforce needs of hospitals (Volpp, 2008).

Data on the effects of DHR for surgery is mixed as well. In the most comprehensive review of literature to date, Jamal et al. (2011) found that overall, DHR affected residents positively and surgical faculty negatively. In terms of surgical education, these researchers found that no study reported a worsening of exam scores. The effect of DHR on operative experience was mixed—of 15 what the researchers deemed "high quality studies," 11 showed a neutral affect, 2 showed a positive effect, and 2 showed a negative effect (40). Other scholars reported "no major negative impact on the operative experiences of residents since the implementation of work-hour restrictions" (Sachdeva et al., 2007: p. 1204; see also Hutter, Kellogg, Ferguson, Abbott, & Warshaw, 2006; Tran, Lewis, & de Virgilio, 2006). In terms of faculty, however, Jamal et al. (2011: p. 40) find that not only do faculty believe DHR are negatively affecting resident training and patient care, but also find that faculty "reported an increase in their workload and more job dissatisfaction in comparison with the period before the restriction of duty hours."

Duty hour regulations, professional socialization and occupational identity

Within medical sociology, there exists a long tradition of studying socialization during medical education (Becker & Geer, 1958; Becker, Geer, Hughes, & Strauss, 1961 [1977]; Fox, 1989; Haas & Shaffir, 1982; Hafferty, 1991; Light, 1979; Merton, Reader, & Kendall, 1957). Scholars are interested in the process by which outsiders become insiders, and by which students are taught the skills and knowledge to be physicians and yet also the beliefs and values "to think, act, and feel like a physician" (Merton et al., 1957: p. 7). Studies of medical socialization have shown that this transformation is far from straightforward and neat; instead, it is an ongoing and tension-ridden series of encounters during which lay values and attitudes become labeled as "suspect," "dysfunctional," and ultimately "inferior," while newly encountered, medical "ways of seeing and feeling" become internalized as "desirable," "functional," and "superior" (Hafferty, 2000: pp. 241–242).

Our research focuses on the next step of training after medical school: residency (see Bosk, 2003 [1979]; Light, 1980; Mizrahi, 1986; Scully, 1980 for other sociological studies of residency). Specifically, this study considers the socialization process that occurs during surgical residency, which lasts five to seven years depending on the program, and which transforms medical school graduates into *surgeons*.

Fox (1989: p. 109) writes that during residency trainees "consolidate their acquisition of professional attitudes and values, [and] crystallize their professional identity." We study residents during a period when the process for "crystalizing" their professional identity has been altered—less because of difficulty reconciling their old and new ways of life and more because the actual identity they are trying to "put on" is in flux because of an external policy change (DHR).

One of the key contributions of our paper is that we study apprentices during surgical socialization at a time when the nature of the threat to occupational identity is two-fold. First, DHR change rites of passage, calling into question how apprentices will become "real surgeons" in the estimation of those training them, who became "real surgeons" precisely because they endured a socialization in which hours worked were unlimited. The second threat created by DHR, however, is not directed at the tentative apprentice's surgical identities, but instead aimed at what we call the "Surgical Personality"—the more general ethos of the surgical field at large (see Bosk, 1986). When externally imposed regulations prohibit characteristic "ways of believing, seeing, feeling and acting," committing to a professional identity becomes difficult, especially when regulatory bodies declare that the profession's self-proclaimed 'superior,' 'desirable' and 'virtuous' nature, as personified by the Surgical Personality, is actually a threat to safety.

As with all planned social change, the reduction of duty hours produced unintended consequences (Merton, 1968 [1949]). For surgical residents, DHR pose specific problems because working many hours has long been functionally and symbolically important in surgical training (Bosk, 2003 [1979]; Parsons, 1951). The very definition of what it means to be a surgeon has been closely connected to the long hours that DHR now forbid: the process of socialization into surgery involves embracing a "stoic ethos that defies physical weakness" (Cassell, 1998: p. 103). Working despite hunger, sickness, or fatigue demonstrates professional commitment to patients. Any external regulations—especially those limiting hours spent treating patients—threaten residents' abilities to enact their commitment to the ethos that defined a surgeon prior to DHR.

In addition, the everyday tasks of surgical work—cutting into, excising, replacing, or rearranging parts of the patient's body—require high levels of cognitive complexity, dynamic situational awareness, and manual dexterity involving delicate fine motor skills. Before duty hour regulations, surgical residents routinely worked 100–120 h a week; with the implementation of DHR, apprentices in surgery are forced to acquire the cognitive skills and muscle memory required for independent practice in fewer hours than their colleagues who trained before DHR.

DHR can impinge on the type of learning necessary to meet the demands of practice once training is completed. In order to master unpredictable work demands, practitioners need to learn to work when fatigued and become accustomed to work interrupting their lives. While DHR create more reasonable work schedules and help safeguard against harm to patients from fatigued residents, they can also hinder surgical residents from developing and internalizing the confidence that they are capable of performing competently, even when exhausted. Prior to DHR, thriving or merely surviving a grueling surgical residency provided those that did so the reassurance that 'if I can manage this, I can manage anything.' With DHR, there is no clear source of this self-assurance, and such self-assurance is a necessary part of a successful surgeon's identity.

We are not arguing that duty hour restrictions are the only or even the main concern at play in the management of the occupational identity for the surgical resident, as there are multiple regulatory, economic, and organizational factors changing the environment in which training takes place and health care is delivered. However, the effect DHR have on the tentative identities of residents, as apprentices, has been overlooked in previous research examining the policy. DHR, being externally imposed and visible, as well as insensitive to differences among specialties, serve as a magnet for collecting concerns about changes in the delivery of surgical care and about professionalism in a health care system that is heavily regulated and increasingly driven by commercial values.

Rites of passage

There is something 'natural' about a change in duty hours becoming the focus of intense debate about professional