

# Operating Room: Relational Spaces and Microinstitutional Change in Surgery<sup>1</sup>

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One of the great paradoxes of institutional change is that even when top managers in organizations provide support for change in response to new regulation, the employees whom new programs are designed to benefit often do not use them. This 15-month ethnographic study of two hospitals responding to new regulation demonstrates that using these programs may require subordinate employees to challenge middle managers with opposing interests. The article argues that relational spaces—areas of isolation, interaction, and inclusion that allow middle-manager reformers and subordinate employees to develop a cross-position collective for change—are critical to the change process. These findings have implications for research on institutional change and social movements.

## INTRODUCTION

How is change in institutionalized practice accomplished in response to regulation? Sociologists have long documented the complex ways that law influences organizational action (e.g., Dobbin et al. 1988; Fligstein 1990; Powell 1996; Edelman and Suchman 1997; Heimer and Staffen 1998; Scott 2001). On the one hand, top managers in organizations may adopt new

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formal programs to signal compliance to external audiences but decouple these formal programs from everyday work practice (Meyer and Rowan 1977; DiMaggio and Powell 1983; Silbey 1984; Oliver 1991; Edelman 1992). On the other hand, even when top managers provide support for a change in practice to benefit subordinate employees, the employees for whom the programs are designed frequently do not use them (e.g., Kalev, Dobbin, and Kelly 2006; Kelly and Kalev 2006). Often middle managers who administer the programs serve their own interests by actively discouraging the programs' intended beneficiaries from taking advantage of them (e.g., Edelman, Erlanger, and Lande 1993; Heimer 1999; Edelman, Fuller, and Mara-Drita 2001). Yet, despite such pressures to preserve the status quo, real change sometimes does occur in response to regulation. How?

In this article, I draw on empirical data from 15 months of ethnographic research at two U.S. teaching hospitals to demonstrate that change in an institutionalized work practice can be effected by developing a unified group of reformers from each of the different work positions involved in the practice targeted for change. The regulation I studied was designed to improve safety for patients and quality of work life for surgical residents.<sup>2</sup> Historically, surgical residents in U.S. hospitals have worked 100–120 hours per week; the new regulation required 80-hour workweeks for residents starting in July 2003. In response, top managers in hospitals across the country created new programs (described in further detail below). Despite these new resources, at many hospitals residents did not use the programs that were established for their benefit. A recent study documents that compliance by interns with the 80-hour-workweek regulation (i.e., averaging 80 work hours per week or less each month) during 2003–4 occurred in only 33% of general surgery residency programs (Landrigan et al. 2006). To put it differently, merely ceremonial compliance in surgery occurred in 67% of hospitals.

This study of two teaching hospitals (pseudonyms Advent and Bayshore) responding to this regulation can help us understand the process by which an institutionalized work practice can change in response to regulation. Advent and Bayshore were exposed to the same regulation at the same time. The hospitals were comparable in terms of industry sector, work organization, prior organizational performance, and other characteristics that have been shown to affect organizational response to regulation. Top managers at Advent and Bayshore created similar programs designed to help residents reduce their work hours. At both hospitals, middle managers had equal power vis-à-vis the subordinates who were

<sup>2</sup> Residents are doctors who are undergoing hands-on training in their specialties after medical school.

the intended beneficiaries of these programs. In both sites, the crux of the problem was that the new programs required these subordinates to challenge their managers. I observed the hospitals from three months before the new formal programs were introduced to 12 months after they were introduced. Despite their similarities, by the end of my 15 months of observation, the daily practice targeted by the regulation was changed at Advent but not at Bayshore.

In this article, I combine an understanding of institutional change with the concept of “free spaces” from social movement theory and extend this concept in important ways to explain the process that accounted for the difference in outcomes at Advent and Bayshore. Social movement theorists employ the term “free spaces” to describe small-scale settings—such as the women-only consciousness-raising groups of the feminist movement or the black churches of the Civil Rights movement—that are isolated from the direct observation of defenders of the status quo and allow for interaction among reformers apart from daily work (e.g., Fantasia and Hirsch 1995; Gamson 1996; Polletta 1999). These theorists argue that free spaces enable reformers to develop an oppositional sense of efficacy (e.g., Hirsch 1990*b*), an oppositional identity (e.g., Taylor and Whittier 1992), and oppositional frames (e.g., Snow et al. 1986) that enable them to challenge defenders (e.g., Ewick and Silbey 1995).

In the context I studied, the challenge being mounted required coordination among reformers in different work positions. I find that in order for free spaces to facilitate a cross-position challenge, they must allow not only for isolation and interaction but also for inclusion: they must include reformers from each of the work positions involved in the practice targeted for change so that these reformers can build a unified collective that enables them to sustain their challenge against defenders outside of these spaces. I call the subset of free spaces that allow not only for isolation and interaction but also for inclusion *relational spaces*, and I call the cross-position collective building that occurs in such spaces *relational mobilization*.

Below, I first review the existing literature on institutional change in response to regulation and on free spaces and describe the research setting and the details of the research design. I then recount how defenders of the status quo (e.g., many middle-manager surgeons) successfully resisted change initially at both hospitals and how the hospitals’ change processes subsequently diverged. I contrast Advent’s change process with that of Bayshore to highlight the way relational spaces at Advent enabled middle-manager reformers and subordinate beneficiaries to build a cross-position collective and ultimately to change the daily practice targeted by the regulation. I end by discussing the implications of relational spaces and

relational mobilization for understanding microinstitutional change as well as social movement processes.

#### INSTITUTIONAL CHANGE IN RESPONSE TO REGULATION IN THE LITERATURE

Social movements often fight for new regulation intended to protect organizations' employees or customers (e.g., Soule and Olzak 2004; Soule and King 2006). But regulations won by social movements do not automatically lead organizations to change practices (e.g., McCann 1994; Katzenstein 1998; Binder 2002). Sometimes regulations run counter to the interests of powerful organization members (e.g., Edelman 1990), and often regulations provide only ambiguous criteria by which to identify compliance (Silbey 1981). In response, organizations may adopt new policies or programs to create believable displays of conformity for important external constituencies but decouple these policies or programs from actual daily practices (Meyer and Rowan 1977; DiMaggio and Powell 1983; Silbey 1984; Oliver 1991; Edelman 1992).

Organizational response to institutional pressure is shaped by environmental characteristics, organizational characteristics, and the actions of top managers. Organizations are more likely to adopt and use new formal policies in response to regulation when legal objectives are clear, sanctions for noncompliance are strong, and beliefs and norms support compliance as the right and proper thing to do (e.g., Edelman 1990, 1992). Organizations are also more likely to embrace new policies if they are nonprofit organizations or public agencies that are highly visible because of their large size or if they are more receptive to innovations in employment practices because they have separate personnel offices (Baron, Dobbin, and Jennings 1986; Dobbin et al. 1988; Edelman 1990, 1992). When institutional pressures run counter to the interests of top managers, they may engage in merely symbolic versus real change according to their power vis-à-vis external audiences (Westphal and Zajac 1994) and according to whether the change that is called for is consistent with their backgrounds (Fligstein 1985), their professional identities (Binder 2002; Rao, Monin, and Durand 2003), or the behavior of high-status actors in their organizational field (Rao, Monin, and Durand 2005).

Middle managers also play an important role in organizational response to institutional pressure because change requires overcoming commitment to existing routines and practices (Dutton and Ashford 1993; Kalev and Dobbin 2006). Middle managers who are sympathetic to a reform, such as personnel officers, often become internal advocates for the implementation of new compliance programs (e.g., Kelly 2003; Bendersky 2007;

Dobbin and Kelly 2007). These middle-manager reformers assist in the elaboration and enforcement of employee rights both because they are committed to these ideals and because they seek to increase their power within their organizations (Edelman 1990; Dobbin et al. 1993; Heimer and Stevens 1997). They may use new models proffered in their professional journals, conferences, and networks to persuade top managers to adopt particular programs (Edelman 1990, 1992; Sutton et al. 1994). Over time, they may even come to disassociate these new programs from regulation and justify them in economic terms (Dobbin and Sutton 1998; Kelly and Dobbin 1998; Edelman, Uggen, and Erlanger 1999; Edelman et al. 2001).

However, while adoption and strong support of new programs by middle-manager reformers is important, it is but one step in the process of changing institutionalized work practices. For real change to occur, subordinate employees must actually use these new programs to change their day-to-day work behaviors. Yet institutional theorists studying a wide range of programs—from those established in response to civil rights law to those established in response to OSHA regulation—have found that the employees who would benefit most from changing work practices often avoid using these new programs and instead continue to work in traditional ways (e.g., Edelman 1992). For example, when top managers responded to civil rights law by setting up internal dispute-resolution systems, many African-Americans who believed that they were passed over for promotion or were assigned undesirable tasks kept their complaints to themselves (Kaiser and Major 2006). When top managers responded to equal employment opportunity law by broadly defining sexual harassment and prescribing mechanisms for protecting employee rights, women who were targets of harassment rarely reported it (Marshall 2005). And when top managers responded to OSHA regulation by hiring safety engineers and committing funds to safety programs to prevent illness and injury, employees often did not bring safety problems to managers' attention (Rees 1988).

The failure of subordinate employees to use such programs can be attributed to multiple factors. Sometimes the programs serve the interests of outsiders rather than insiders (e.g., Gouldner 1954) or do not address the issues that need attention (Selznick 1949). In other cases, the programs offer ineffective mechanisms; for example, some purportedly flexible work programs require employees to choose starting and stopping times and to adhere to them for months rather than allowing them to shift hours daily as needed (Kelly and Moen 2007).

One major factor in the nonuse of new programs by intended beneficiaries is a constraining social context (Morrill 1995; Blair-Loy and Wharton 2002, 2004). In particular, unsupportive actions on the part of midlevel

line managers who administer the programs often lead subordinates not to use them. Middle managers who administer these new programs may ignore the goals of the programs as they juggle multiple work demands (Kalev et al. 2006). They may even actively discourage the use of the programs to serve their own interests (Edelman 1990; Edelman et al. 1993; Harlan and Robert 1998; Heimer and Staffen 1998; Heimer 1999; Edelman et al. 2001; Kelly and Kalev 2006), interests that may differ considerably from those of the top managers who established the programs (Edelman and Petterson 1999; Morrill, Zald, and Rao 2003).

Individuals make decisions about compliance according to cognitive scripts, moral beliefs, and material self-interest (Silbey 1981; Suchman 1997), and interactions between subordinates and their midlevel line managers around the use of such new programs often lead subordinates not to do the “naming, blaming, and claiming” (Felstiner, Abel, and Sarat 1981) necessary to invoke their rights. Middle managers sometimes discourage subordinates from naming a traditional practice as unfair by portraying antidiscrimination law in a negative light and depoliticizing legal ideals (Edelman et al. 2001). They may also encourage subordinates to blame themselves for the perpetuation of these practices by recasting complaints as due to personality conflicts or employee deficiencies rather than discrimination (Edelman et al. 1993; Harlan and Robert 1998). Finally, they may lead subordinates not to claim their rights by encouraging fear of retaliation or the belief that their efforts will not result in change (Edelman et al. 1993; Harlan and Robert 1998; Fuller, Edelman, and Matusik 2000; Albiston 2005; Marshall 2005).

Despite these pressures for maintenance of the status quo, past studies show that change in institutionalized daily work practices in response to regulation does sometimes occur (e.g., Edelman 1990). However, the process by which it occurs has not been elaborated before, perhaps because doing so requires intensive observation of day-to-day interaction over an extended period of time (Barley and Tolbert 1997; Barley 2008) and because it is difficult for researchers to gain access to study the implementation of regulation inside organizations (Gunningham, Kagan, and Thornton 2003; Suchman and Edelman 2007). In this study, I combine the concept of free spaces with insights gained from my longitudinal ethnographic study inside two organizations to demonstrate the relational mobilization process by which real change in an institutionalized daily work practice in response to regulation can occur.

## FREE SPACES AND OPPOSITIONAL MOBILIZATION FOR CHANGE

Social movement theorists have developed the notion of free spaces to explain how subordinate groups generate the capacities needed to engage in political challenge (e.g., Polletta 1999). According to these theorists, free spaces include such spaces as work departments and union halls (Fantasia 1988; Hirsch 1990*b*), women's social meetings on the margins of big meetings of the Student Nonviolent Coordinating Committee (Evans and Boyte 1986), and traditional homes in the Algerian revolt against French colonialism (Fantasia and Hirsch 1995). These spaces can be virtual as well as physical, and their security, as well as the ease of limiting access to them, can vary over time (Gamson 1996). Within these spaces, reformers can engage in oppositional mobilization against defenders of the status quo; they can build a sense of *oppositional efficacy* (a feeling that their collective action against defenders can be successful; Fantasia 1988; Fantasia and Hirsch 1995; Gamson 1996), an *oppositional identity* that allows them to act together against newly defined adversaries (Taylor and Whittier 1992; Snow and McAdam 2000; Polletta and Jasper 2001), and *oppositional frames* that highlight problems with the traditional system and prescribe collective action solutions (Snow et al. 1986; Snow and Benford 1988).

Two characteristics of free spaces are important to the analysis presented here: where the spaces are located (namely, apart from defenders of the status quo) and what happens in them (interactions different from daily work). The isolation of free spaces from defenders is critical to mobilization because, for oppositional capacities to develop and become shared, reformers need some autonomous space where they are at least temporarily shielded from agents of social control (Fantasia and Hirsch 1995; Gamson 1996). The setting for interaction apart from daily work provided by free spaces is critical because oppositional efficacy, identity, and frames are created in encounters in intimate settings (Snow and Anderson 1987; Fantasia 1988; Hirsch 1990*a*). The examination of where these free spaces are and what happens in them is useful to understanding the oppositional mobilization processes by which reformers ready themselves to challenge defenders. However, to explain the intraorganizational change processes I saw, it is necessary to analyze an additional element—the inclusion of reformers from each of the work positions required for change.

In this study, I address two problems with the concept of free spaces to help explain the dynamics I observed. First, since social movement scholars have previously invoked free spaces as an explanation for successful mobilization efforts without also studying failed efforts (to determine if there were no free spaces available in those efforts), it is not clear

that free spaces can really explain success. Second, because the free spaces that have previously been studied have been homogeneous, collecting people who are already similarly situated and like-minded, they seem to be ill suited for building new role relationships across reformers in different work positions. In the context I studied, reformers needed to build not only an oppositional collective against defenders but also a cross-position collective with other reformers because the challenge required coordination among reformers in different work positions (e.g., middle managers and subordinates). I find that in order for free spaces to facilitate this kind of coordinated challenge across multiple positions, they must allow not only for isolation and interaction but also for inclusion of reformers from each of the work positions that need to be part of the new role relationships.

I suggest that relational spaces—a subset of free spaces that allow such inclusion—give reformers in different work positions a forum for building a sense of efficacy around accomplishing change with newly developed task allocations. These spaces allow reformers to develop an identity dictating how reformers in different work positions should behave with one another. Finally, the spaces facilitate the creation of frames justifying these new task and role expectations. Through the creation of new relational efficacy, identity, and frames, reformers can build a cross-position collective that enables them to sustain a challenge against defenders of the status quo and change a long-standing work practice. In what follows, I review the methods used in this study and then describe how relational spaces at Advent were necessary for reformers to engage in relational mobilization and subsequently challenge and change an institutionalized work practice.

## METHODS

The methodological strategy employed in this article draws on ethnographic data collection and historical comparison to generate grounded theory. The two hospitals studied, Advent and Bayshore, were selected because they are located in the same region, doing similar work, and responding to the same regulation. The sequence of the research was as follows: (1) the new regulation was announced; (2) I studied two similar hospitals during the period just before and just after the introduction of new formal programs designed to allow compliance with the regulation; (3) real change in the daily work practice targeted by the regulation occurred at one hospital and not at the other; (4) I collected continued data until the end of the resident year; and (5) I examined the data to determine the process by which a difference in outcomes occurred.



## Study of Matched Cases: Advent and Bayshore

Before this regulation, across all U.S. hospitals, the structures of surgical residency programs—as manifested in roles and relationships among their directors, staff surgeons, and residents—were remarkably consistent (fig. 1). Professional training in surgery followed widely accepted protocols and the work of residents in general surgery was organized similarly across hospitals. In the professional bureaucracies of hospitals, directors of surgery departments were surgeons who managed administrative issues associated with the activities of the other staff surgeons and the surgical residency program but had little authority over the day-to-day practices of these staff surgeons. Staff surgeons (surgeons who had already completed their residency training) brought revenue to the hospitals by bringing in surgical patients. These staff surgeons both depended on the work of the surgical residents and provided these residents with hands-on training.

Teams of “chiefs” (fifth-year residents), “seniors” (second-, third-, and fourth-year residents), and “interns” (first-year residents) took care of 10–20 patients on each particular surgery service (e.g., vascular surgery). All residents “rotated” through areas such as general surgery, trauma, and other specialty surgery (e.g., neurosurgery) as well as through community hospitals, so residents frequently changed work groups. Rotation frequencies depended on the level of the resident: interns spent four weeks on each service, seniors spent six to eight weeks, depending on their postgraduate year, and chiefs spent eight weeks.

Chiefs formulated daily plans for each patient on the service and assisted staff surgeons in difficult “cases” (operations) throughout the day. Seniors cared for the complex issues of general surgery patients and assisted staff surgeons with moderately difficult cases. Interns implemented patient plans and assisted staff surgeons with simple cases. At Advent, seven chiefs, 16 seniors, and 20 interns who were rotating on the general surgery services during 2002–3 were involved in the change process associated with the work-hours regulation; at Bayshore, the corresponding numbers were five chiefs, 13 seniors, and 23 interns.<sup>3</sup>

Advent and Bayshore shared remarkable similarities along the dimensions that have previously been shown by institutional theorists to affect change in work practice in response to institutional pressure (table 1). The hospitals were similar in size of residency program, alignment with the public sector, existence of a personnel office, performance history, organization type, union status, and types of diseases addressed. The

<sup>3</sup> The narrowing of the funnel as residents progressed up the hierarchy was due not to turnover but to planned transfers of junior residents to other specialties after initial training in general surgery.

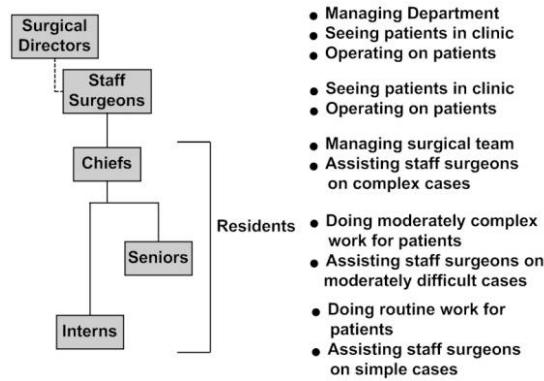


FIG. 1.—Structure of surgical residency prior to work-hours regulation

authority relations between the staff surgeons and the residents were also similar in the two hospitals.

Advent and Bayshore differed in hospital size, percentages of male and female residents, and status of the residency program. None of these three differences can explain the difference between Advent's and Bayshore's changes in work practice. Bayshore is smaller than Advent, and institutional theorists have suggested that larger organizations are associated with early adoption of compliance programs because they often have greater resources to invest in new programs and are more visible to governance bodies (Dobbin et al. 1988; Edelman 1992). However, in this case, Advent and Bayshore invested similar resources in the new programs and adopted the programs at the same time. The current literature makes no predictions about the relationship between organization size and real change in daily work practice. Bayshore also had a higher percentage of female residents than did Advent. Since, in general, female residents were more open to the change in work hours than were male residents, one would expect that this would have made change easier to accomplish at Bayshore than at Advent. But change occurred at Advent and not at Bayshore. Finally, the Bayshore residency program was in the middle tier of the status hierarchy of U.S. surgical residency programs, while the Advent program was in the top tier. One could argue that Bayshore continued traditional practices because of middle-status conformity (Phillips and Zuckerman 2001), but as I will explain in further detail below, if Advent's high status were what led to openness to change the work practice, we would expect to have seen change attempted throughout Advent rather than only in particular spaces.

TABLE 1  
COMPARISON OF ADVENT AND BAYSHORE HOSPITALS

	Advent	Bayshore
Location .....	U.S. urban center	U.S. urban center*
Size of surgical residency program:		
Directors .....	2	2
Surgeons .....	25	23
Surgical residents <sup>†</sup> .....	43	41
Alignment with public sector .....	High	High
Existence of personnel office .....	Yes	Yes
Prior organizational performance .....	Full accreditation every year for which data are available	Full accreditation every year for which data are available
Organization type .....	Teaching hospital	Teaching hospital
Authority relations .....	Residents subordinate to surgeons	Residents subordinate to surgeons
Union status .....	No surgical residents in union	No surgical residents in union
Director background .....	Career in academic surgery	Career in academic surgery
Resident background .....	4 years of medical school	4 years of medical school
Training period .....	5 clinical years; 2 lab years	5 clinical years; 2 lab years
Gen. surgical conditions treated .....	Vascular, oncology, colorectal, gastrointestinal	Vascular, oncology, colorectal, gastrointestinal

TABLE 1 (Continued)

	Advent	Bayshore
Organization of work:		
No. of resident teams providing care on services <sup>§</sup> .....	4	3
Assignment of tasks .....	According to year of resident	According to year of resident
Frequency of residents' rotation onto new service .....	Every 4-8 weeks	Every 4-8 weeks
Timing of change effort .....	July 2002-July 2003	July 2002-July 2003
Size of hospital (no. of beds) <sup>  </sup> .....	x	.75x
Resident demographics:		
%male/female .....	74/26	61/39
%white .....	59	71
%Asian .....	33	27
%black .....	8	2
Status of residency program .....	High (aff. with elite medical school)	Middle (aff. with very good medical school)

\* Advent and Bayshore are located in the same region.

† Includes all surgeons on the general surgery services in the study. (Other surgeons at Advent and Bayshore who were nongeneral or were associated with trauma services are not included)

‡ Number of residents does not include residents in postgraduate years not directly involved in making the change in sign-out practice (described below) on the general surgery services or nonclinical residents undergoing two years of laboratory training.

§ Both hospitals have approximately 15 patients on each service.

|| To disguise which hospitals are studied here, actual number of beds is not recorded.

### Ethnographic Data Collection

One methodological advantage of ethnographic study is that it provides real-time data that span the period in which the change happened. I started observing the change process three months before the programs were introduced to establish a baseline, watched the entire process for 12 months afterward, and saw both hospitals develop a consistent pattern regarding the targeted work practice. While the regulation requiring work-hours reduction did not formally go into effect until 2003, Advent and Bayshore adopted new programs to prepare for it in 2002.

For the first three months (April–June 2002), before the introduction of the new programs, my research focused on documenting the traditional day-to-day practices of surgical residents to establish a comparative basis for determining how change unfolded. During this time, I interviewed residents, staff surgeons, and directors at Advent and Bayshore and asked questions about how the impending changes would affect patient care, resident education, and resident quality of life in order to gauge prechange support for the regulation.

For the next 12 months (resident year July 2002–June 2003), the research concentrated on the change process. During the whole 15 months, I focused my observation on the interactions among the surgical residents on the general surgery services and on their interpretations of why they were acting as they did. From April to November, I spent 20 or more hours per week on-site at each hospital, observing members at different times of day and night during surgeries in the operating room (OR), on the patient floors, and in conferences. After eight months of observation at Bayshore, the work practice targeted for change was unchanged and stable. Therefore, I scaled back the time I spent at Bayshore to approximately five hours per week for the final seven months of fieldwork. At Advent, where the targeted work practice had still not stabilized, I continued to spend 20 or more hours per week on-site. This enabled me to focus on the unfolding changes in work practice at Advent while continuing to follow the stable work practice at Bayshore.

### Analysis of Contradictory Outcomes

Once I had determined that real change had occurred at Advent and not at Bayshore, I contrasted the two cases to identify the processes associated with change in the work practice targeted by the regulation. My inductive analysis (Glaser and Strauss 1967) consisted of multiple readings of interview transcripts, field notes, and archival data as well as the tracking of patterned activities and issues related to change in ATLAS/ti, a qualitative data-analysis program. In my coding of the interview transcripts,

I associated virtually every passage of more than 2,000 single-spaced pages of text with one or more codes that flagged highly specific but recurring topics related to change in the targeted practice. I provide more information about my analyses below.

#### HISTORICAL PRACTICES AND PLANNED NEW PRACTICES AT ADVENT AND BAYSHORE

To understand the change process at Advent and Bayshore, it is necessary to understand both their historical and planned resident practices. Historically, at both Advent and Bayshore, chiefs and seniors had worked approximately 100 hours per week (6:00 a.m.–7:00 p.m. six days per week and 7:00 p.m.–6:00 a.m. on call two nights per week) and interns had worked approximately 120 hours per week (4:00 a.m.–9:00 p.m. six days per week and 9:00 p.m.–4:00 a.m. on call two nights per week).

Top managers at Advent and Bayshore introduced similar programs to allow residents to reduce their hours. The new “night float” programs each added three surgical residents to general surgery services, creating a night float team to work overnight each night. At both hospitals, these new night float programs did not merely move work around between existing residents on the general surgery services but added three new work positions to these services to help reduce the amount of work done per resident.

The new night float programs were designed both to allow residents in all years to dramatically reduce the number of nights they spent on call and to allow interns (who had historically worked the longest hours) to shorten their workdays so that all residents would be working 80 hours per week. While reducing the number of nights spent on call was easy to do at both hospitals once top managers had secured additional resources for the night float programs (substitution of one resident for another in the call schedule had been done frequently in the past, and this change was seen as merely a broader set of substitutions), shortening intern workdays was more difficult to accomplish.

#### The Practice Targeted for Change: Sign-out

In order to shorten intern workdays, residents needed to change a long-standing daily work practice—the “sign-out” between the intern and the resident covering the overnight shift. Surgical interns had historically been responsible for all of the routine work associated with the preoperative and postoperative care of patients. When interns were not working on call overnight, they met with the on-call resident to sign out by reviewing

general information on the work they had done that day and alerting the on-call resident to very sick patients. The on-call resident took care of any patient-care emergencies that arose for these patients overnight. But, according to the residents (and to my observations in both hospitals prior to the initiation of the change effort), interns did not attempt to hand off any routine work tasks, such as completing paperwork required to admit a new patient, to the resident covering the overnight shift. Interns took care of all of this “scut work,” even though doing so required them to stay in the hospital until about 9:00 p.m. and to arrive the next morning at 4:00 a.m. to gather data on patients before morning rounds began at 6:00 a.m. At 4:00 a.m., when the intern arrived, the resident who had stayed on call overnight would sign out to the intern by reporting on any overnight emergencies. Since the on-call resident had not covered routine work tasks overnight, such as gathering “vitals” (patient data) for morning rounds, this on-call resident did not hand off work tasks to interns in morning sign-out encounters.

### Planned New Practice: Handoffs during Sign-out

To reduce their workweeks to 80 hours, Advent and Bayshore interns would need to reduce the number of hours they worked on a regular workday from roughly 17 hours (4:00 a.m.–9:00 p.m.) to roughly 13 hours (6:00 a.m.–7:00 p.m.) by handing off routine work in sign-out encounters. The new night float programs, staffed by Advent and Bayshore’s own surgical residents, were designed to facilitate this. Table 2 outlines resident work hours, coverage, and sign-out practices in both hospitals over several phases; the first two columns describe the traditional system (phase 0) and the planned new programs (phase 1 planned). At both hospitals, the planned new night float programs were designed to allow interns to reduce their weekly work hours from 120 to 80 and for chiefs and seniors to reduce their weekly work hours from 100 to 80. These work-hour reductions did not entail a reduction in income for any residents; annual salaries were fixed.

Directors at both hospitals secured the resources for the new programs by negotiating with departments outside of general surgery for the elimination of other surgical resident rotations (such as community hospital rotations) so that surgical residents would be freed up to serve on the night float team for the general surgery services. At both Advent and Bayshore, three positions were added to staff the night float team. Position 1 was added to assist with highly complex patient-care work such as surgical emergencies; the resident in this position did not interact with interns. Positions 2 and 3 were added to cover both simple and moderately complex patient-care work and routine administrative work. At both hos-

TABLE 2  
RESIDENTS' WORK HOURS AND PRACTICES OVER TIME AT ADVENT AND BAYSHORE

	PHASE 1			PHASE 2	
	PHASE 0	Planned	Actual	Advent	Bayshore
Resident work hours:					
On call overnight	Twice a week	Once a month	Once a month	Once a month	
Hours/week (total):					
Chiefs and seniors	6 a.m.-7 p.m. 6 days and 7 p.m.-6 a.m. 2 nights (100)	6 a.m.-7 p.m. 6 days (80)	6 a.m.-7 p.m. 6 days (80)	6 a.m.-7 p.m. 6 days (80)	6 a.m.-7 p.m. 6 days (80)
Night floats	. . .	6 p.m.-7 a.m. 6 days (80)	6 p.m.-7 a.m. 6 days (80)	6 p.m.-7 a.m. 6 days (80)	6 p.m.-7 a.m. 6 days (80)
Interns	4 a.m.-9 p.m. 6 days and 9 p.m.-4 a.m. 2 nights (120)	6 a.m.-7 p.m. 6 days (80)	4 a.m.-9 p.m. 6 days (100)	6 a.m.-7 p.m. 6 days (80) <sup>a</sup>	4 a.m.-9 p.m. 6 days (100)



TABLE 2 (Continued)

	PHASE 1			PHASE 2	
	PHASE 0	Planned	Actual	Advent	Bayshore
Overnight coverage	1 resident from each service on call every third night to cover emergent patient-care work	Night float team works 6 p.m.-7 a.m.; position 1 covers complex emergencies, positions 2 and 3 cover emergent patient care and routine work	Night float position 1 covers complex emergencies 6 p.m.-7 a.m.; positions 2 and 3 cover emergent patient-care work 9 p.m.-4 a.m.; day intern covers emergent patient care and routine work 4 a.m.-9 p.m.	Night float position 1 covers complex emergencies 6 p.m.-7 a.m.; position 3 now filled by intern; positions 2 and 3 cover emergent patient care work and routine work 6 p.m.-7 a.m.	Positions same
Actual sign-out practices:					
Interns regularly hand off routine work	No	Officially required	No	Yes	No
Seniors do routine work	No	Officially required	No	Yes	No

NOTE.—Phase 0 = traditional system; phase 1 planned = new programs planned; phase 1 actual = new programs implemented; phase 2 = subsequent change at Advent and not at Bayshore.

\* Work hours are based on interviews and so are somewhat idealized. In individual weeks, some people exceeded these hours to a certain extent, but according to the interviews, the change from previous hours was dramatic.

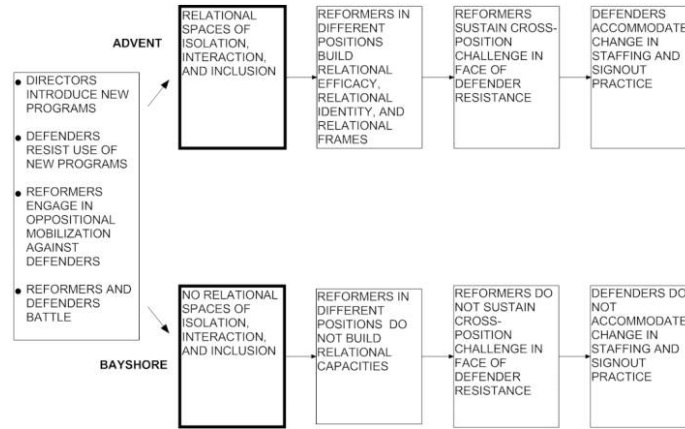


FIG. 2.—Change processes at Advent and Bayshore

pitals, position 2 was staffed by a designated resident who would work six nights a week for an entire rotation, and position 3 was staffed by a rotating group of surgical residents, each of whom would work overnight one to two times per week and leave the hospital the following morning.

In both cases, day interns were expected to hand off any of their work not completed by 6:00 p.m. to the position-2 and position-3 night float residents. These night floats were expected to cover work as described above from 6:00 p.m. to 6:00 a.m., to hand off any uncompleted work tasks to day interns at 6 a.m., and to overlap with these interns until 7 a.m. Residents were expected to work six 13-hour days per week to allow for one hour of overlap between the night and day shifts on each end of the day. At both hospitals the new night float programs required that interns hand off routine work and that they do so to seniors. As will be described in further detail below, this required interns to violate both surgical norms (which prohibited handoffs of routine work) and the strict surgical hierarchy (which prohibited more junior surgeons from asking anything of those more senior). To explain how this occurred at Advent and not at Bayshore, I will first describe the similarities in the change processes at the two hospitals and then describe how their paths diverged (fig. 2).

INITIAL SIMILARITIES IN CHANGE PROCESSES AT ADVENT AND BAYSHORE

Defenders and Reformers

At both hospitals, some people (whom I call *defenders*) resisted the change and some (*reformers*) supported it; table 3 outlines who aligned with each of these groups and their reasons for doing so. Many of the staff surgeons, chiefs, and seniors were resistant to the night float programs even before they were formally introduced and expressed this resistance in initial interviews. It is easy to see why staff surgeons would resist: the changes would not reduce their own work hours, and they feared an increased workload as they would now need to communicate with a greater number of people about patient care. In addition, the program requirement that interns hand off work to night floats conflicted with the longstanding surgical authority relations, which prohibited junior residents from asking their seniors for help with routine work (Bosk 1979). Handoffs also ran counter to the traditional surgical identity of the “iron man” surgeon who is tough enough to withstand any hardship, including extremely long hours. Finally, handoffs conflicted with traditional surgical beliefs about the best ways to care for patients (one resident takes responsibility for a patient from when the patient enters the hospital to when the patient leaves) and educate residents (the more time residents spend in the hospital, the more they learn).

While it is obvious why the staff surgeons would resist the new programs, it is less immediately obvious why chiefs and seniors would do so, when the programs would cut their own work hours. Close inquiry revealed that what the chiefs and seniors were resisting was not the reduction for all residents of nights spent on call but the specific requirement that interns hand off routine work to seniors. First, as noted above, handoffs violated long-standing surgical beliefs about the best ways to care for patients and educate residents. Second, chiefs wanted their interns to accomplish all routine work on patient plans, as they had done in the past, rather than relying on multiple residents to do routine work. Soon-to-be night floats wanted to minimize their own overnight workload. Finally, both chiefs and seniors were not interested in taking on lower-status routine work traditionally done by interns. While it might not seem like a big issue to a layperson, doing routine work was considered a major problem by chiefs and seniors. One of the ways they maintained their status as chiefs and seniors was by avoiding exactly this, the “dirty work” (Hughes 1971).

Despite this lack of support from many individuals for the change in the sign-out practice, there were people at both Advent and Bayshore who privately told me in interviews prior to the introduction of the night

TABLE 3  
DEFENDERS AND REFORMERS

Actors	Reasons for Stance on Change in Sign-out Practice
Defenders:	
Staff surgeons	Will not receive reduction in hours; fear increased workload; see change as violating surgical hierarchy, identity, and frames
Some chiefs and seniors	New practice will require a change in routines; will need to start doing low-status routine work; see change as violating surgical hierarchy, identity, and frames
Reformers:	
Directors	Risk loss of accreditation for noncompliance; hope that reduced hours will allow them to attract the best candidates to surgery
Patient-centered chiefs and seniors and residents going into other specialties	Interested in improving the valuation of work done outside the OR
Male chiefs and seniors who do not identify with iron man persona and female residents	Interested in changing the traditional iron man identity
Interns	Direct beneficiaries of the change in sign-out practice

float program that they supported it. At both hospitals, the directors of the surgery departments supported the implementation of the new program for two reasons. First, the directors faced the risk that their residency training programs would lose accreditation from the Accreditation Council for Graduate Medical Education (ACGME) if they did not comply with the new rules. Second, they hoped that the reduced hours would enable them to attract the best candidates to their residency programs, including those who in the past might have avoided surgery because of long hours during residency.

While many chiefs and seniors were opposed to the changes, others supported them. Reformer chiefs and seniors at the two hospitals included residents who were particularly patient centered, residents who were going into other specialties after training for one or two years in general surgery, male residents who did not identify with the traditional iron man persona, and female residents. Patient-centered men and residents going into other specialties after training in general surgery were interested in direct patient care and enjoyed working not only in the operating rooms but also up on the patient floors, a duty labeled scut work by the defenders. One patient-centered male resident at Bayshore said, "For me, direct patient care is important. I want to learn how to be a complete doctor. But, for

general surgeons, any time spent in the clinic or anything related to managing patients on the floor is scut.”

Male residents who did not identify with the iron man persona supported the regulation because they thought it would help change this traditional surgeon identity. These residents were typically in relationships with women who expected them to take on some share of responsibilities at home. Many of the female residents also expressed support for the reform in interviews prior to the change effort because they wanted more time for personal life responsibilities. One female senior at Advent noted, “Being a surgeon isn’t so great as a woman. These guys can go out and meet anyone anywhere who will date them. . . . It is a huge asset for men. It means money, status, a safety net. They’re heroes. . . . But for a woman . . . what guy wants to put up with that shit? . . . I’ve had two dates set up since I’ve been a resident and I had to cancel both of them to work late.”

Before the new programs were introduced, reformers and defenders at Advent and Bayshore were similar. The beliefs of these groups were the same and, based on the interviews I conducted before the night float programs were established, Advent and Bayshore had similar numbers of midlevel reformers (12 vs. 11) and similar numbers of interns who were the beneficiaries of the change (20 vs. 23; see table 4).

In addition, there were no differences between the hospitals in the relative authority of directors vis-à-vis the staff surgeons or of the staff surgeons vis-à-vis the residents. The heads of the surgery departments at Advent and Bayshore each served on their hospital’s board of directors and had similar organizational tenures as surgeon-in-chief. At both hospitals, staff surgeons wielded a great amount of authority over the residents. Chiefs checked in daily with the staff surgeons on the service to review patient plans and to make changes the staff surgeons deemed necessary; residents obeyed the commands of staff surgeons in the OR.

#### Directors Introduce New Programs

The directors at Advent and Bayshore introduced the new night float programs in similar fashions at the beginning of the surgical residency year July 2002–June 2003. At both hospitals, the staff surgeons grumbled about the new programs, but because there was a bill in Congress calling for national legislation on resident work hours, the staff surgeons believed it necessary to create the programs to “satisfy the ACGME.” Because it was the incoming chiefs who would need to manage the work on their services in new ways, directors at both hospitals worked closely with them to design the night float programs and assigned them responsibility for program implementation. This delegated responsibility was relatively

TABLE 4  
 NUMBER OF MIDDLE-MANAGER REFORMERS AND SUBORDINATE BENEFICIARIES AT  
 ADVENT AND BAYSHORE

	Advent	Bayshore
Senior residents .....	10 (22)*	8 (12)
Chief residents .....	2 (6)	3 (5)
Total midlevel reformers .....	12 (28)	11 (17)
Intern beneficiaries .....	20	23
Total midlevel reformers and interns .....	32 (48) <sup>a</sup>	34 (40)

NOTE.—Numbers in parentheses are total residents in each category. To be conservative, these numbers do not include the seniors and chief at Advent and Bayshore who were not interviewed prior to the change effort. However, reformer and defender categories were stable over time until the Advent change in night float staffing that occurred midyear. If these three Advent and two Bayshore residents were counted based on how they acted in free spaces, the count would be 13 midlevel reformers at Advent and 12 at Bayshore. All interns are counted as beneficiaries (including the two at Advent and four at Bayshore who were not interviewed prior to the introduction of new programs).

\* Includes nonclinical surgical residents undergoing two years of laboratory training who were used to staff the night float team at Advent.

weak in both hospitals because the directors did not monitor progress by requiring residents to use time sheets to report their weekly work hours. They did not do this because, if they had, the ACGME could have demanded to see these time sheets during its site visits, and directors at both hospitals wanted to determine how best to implement the new system before tracking it in a way that the regulatory agency could follow (e.g., Silbey 1981).

At both hospitals during intern orientation week, the directors announced the details of the new programs in “grand rounds” meetings that were attended by staff surgeons and residents. In addition, chiefs at each hospital reinforced these descriptions to the residents in a separate meeting. The directors in both hospitals had historically kept track of what was happening on the surgical services by checking in with chiefs to ask how things were going, and this is how they tracked the progress of the new night float programs over the year.

#### Defenders Resist Use of New Programs

With the introduction of the new programs, interns at both hospitals tried for a very brief period to hand off routine work in sign-out encounters to night floats. Despite reformer support for the new night float program at both hospitals, defender night floats initially dissuaded interns from further handoff attempts. Defenders did this by retaliating against reformers who attempted change, emphasizing the traditional resident identity and framing the new sign-out practice as illegitimate.

## Operating Room

First, defender chiefs and seniors protected the traditional division of labor, in which the intern on the service completed his or her routine work without assistance from other residents, by retaliating against those who attempted to change practice. They rewarded interns who broke the formal rules of the new system and stayed late in the hospital by not punishing these interns for minor mistakes, by “throwing them bones” (assigning them interesting cases), and by including them in the daily practical joking that they reserved for members of their select group. They also punished those who attempted to change practice by gossiping about them to their defender peers and to the staff surgeons. Staff surgeons at both hospitals lent the defenders their support by making snide comments about the 80-hour workweek when in the OR with residents and by withholding teaching from those who attempted change. Several staff surgeons told me that when they heard about particular interns attempting handoffs, they felt less motivated to help these interns and took less time showing them how to do things in the OR. Interns working with defender seniors feared gossip and did not want to risk having their reputations ruined in the eyes of the staff surgeons.

In addition to retaliating against those who attempted to change practice, defenders resisted change by emphasizing the traditional surgeon identity—displaying individualism, living in the hospital, and being an iron man—which conflicted with the planned changes. In their demeanor, defenders displayed individualism by explicitly discounting the input of nurses and other physicians when making their decisions. They also emphasized their iron man personas by enacting the cultural vernacular of machismo through their appearance: short haircuts for men, tucked-in scrubs tops with the pants worn low on the hips, green surgical masks around their necks long after leaving the OR, and black leather surgical clogs. In their language, defenders claimed that they were “old school” residents who “trusted no one” and were the “first ones there and last to leave.”

Defenders also reinforced the traditional position-specific identities in their language by referring to chiefs as “commanders” (responsible for breaking the will of the interns), day seniors as “wingmen” (who did whatever was required to help the chief), night floats as “stopgaps” (who covered only emergencies and performed no routine work overnight), and interns as “beasts of burden.” They reinforced traditional position-specific identities in their demeanor as well. For example, senior night float defenders signaled their roles as stopgaps by arriving at the hospital long past 6:00 p.m., by minimizing contact with interns, by “running the list” (reviewing the list of patients and tasks associated with each) as rapidly as possible, and by rolling their eyes when an intern tried to hand off the checking of tests or films (x-rays).

Finally, defenders resisted change by drawing on traditional surgical beliefs to frame handoffs in sign-out encounters as illegitimate. They argued that handoffs disrupted “continuity of care” for patients (meaning that the best patient care was achieved when one surgical resident took complete responsibility for particular patients from the time of their surgery to the time they left the hospital) and prevented “learning by being there” for residents (meaning that residents needed to learn surgery by spending as much time in the hospital as possible). In an example of defenders’ stance regarding patient care, one Advent intern tried to hand off “post-ops” (checking of patients after surgery) to the night float, and while delays in doing post-ops had always been common because highly trained nurses observed patients after surgery, the Advent night float told the intern that it was not appropriate to hand off post-ops because patients needed to be checked by the intern within three hours for good continuity of care: “In surgery, things can turn on a dime. . . . If you’re a patient’s doctor, you need to know them inside and out. That patient’s care depends on you knowing every detail. The problem with handoffs is that things fall through the cracks.” Regarding resident education, one Bayshore chief told an intern why he should spend as much time in the hospital as possible instead of handing off and leaving the hospital: “You can’t ever appreciate the natural history of stuff without seeing it. Until you see someone go down the tubes in front of your face, you don’t believe it. I went in kicking and screaming and thought it was all a pain in the ass. I complained bitterly. But if you don’t do it one time, poof, badness.”

Defenders also drew on traditional position-specific beliefs to frame routine work—post-ops, “pre-ops” (completing necessary paperwork before surgery), and “admits” (admitting patients to the hospital)—as “intern work.” They argued that it was fair for interns to stay until 9:00 or 10:00 p.m. and arrive at 4:00 a.m. the next morning because they needed to “pay their dues” in order to move up the hierarchy just as the chiefs and seniors had done before them. For example, when an Advent reformer chief asserted that seniors needed to start accepting handoffs, a defender chief responded by explaining why it was justifiable for seniors not to accept handoffs: “You can’t expect them to start all over doing pre-ops and updating cards. These guys have been there and done that. . . . You can see how it would be tough as a senior to be told to do the intern job all over again.” In these ways, defender chiefs and seniors drew on existing surgical resident beliefs to frame the traditional sign-out practice with no handoffs as natural and normal rather than problematic or unfair.



## Reformers Engage in Oppositional Mobilization against Defenders

At both Advent and Bayshore, reformers responded to resistance from defenders by building opposition to defenders in hospital free spaces. Groups of reformers often ate lunch together in the hospital cafeterias. When defenders were not present, these cafeteria tables allowed for isolation and face-to-face interaction among reformers. Similarly, reformers often gathered to talk with one another in the surgical resident call rooms or hospital hallways. To explore what happened in these free spaces, I organized data from the free-space meetings I observed into two groups of notes (reflecting 83 meetings at Advent and 66 meetings at Bayshore) and coded these data to identify processes engaged in by reformers at the two hospitals.<sup>4</sup> I found that, in these free spaces, reformers at both hospitals built oppositional efficacy, oppositional identity, and oppositional frames that later led them to challenge defenders.

At both Advent and Bayshore, reformers built oppositional efficacy—a sense of hope that collective-action efforts against defenders could be successful (e.g., Gamson 1992*a*)—by telling one another about their defiance of the defenders and of traditional practices. For example, in a hallway conversation with several other reformers, one reformer chief at Advent told the group that one of the other chiefs (who was known by all to be “old school”) had given him a hard time for not having his intern “preround” (come in at 4:00 a.m. to check on patients before morning rounds began at 6:00 a.m.). The reformer chief said that he told the old school chief, “They’ve been doing it this way in England for years.” A reformer day senior who was present smiled and said that he had been ragged on by one of the other seniors for doing “intern work” but continued to do it anyway. As reformers began to tell stories to one another about their defiance of defenders and of traditional practices (Ewick and Silbey 2003), they began to feel a sense of loyalty to one another and to develop a belief that others would act with them to challenge defenders.

In addition to building a sense of assurance that others would act with them for change, reformers developed oppositional identity (Gamson 1992*b*; Taylor and Whittier 1992; Polletta and Jasper 2001) by drawing boundaries between “us” and “them” and by defining defenders as adversaries who needed to be challenged. They did this by displaying the persona of the “efficient resident” rather than being iron men and by calling themselves residents who wanted to “have a life” rather than “live in the hospital.” In addition, in their conversations with one another in

<sup>4</sup> I observed a greater number of meetings at Advent than at Bayshore because, as noted in the “Methods” section, the number of total hours I spent in observation was lower at Bayshore than at Advent because Bayshore reached a consistent pattern of sign-out encounters sooner.

these free spaces, reformers began to construct themselves as “not old school” and to name old school night floats and chiefs as adversaries who needed to be challenged. For example, in one call-room conversation with only female residents present, a senior Bayshore reformer said, “All of the old school guys stay late for any case, no matter what time it goes. They’ve all got wives at home who are willing to ‘stand by their man’ regardless of never seeing him. But they need to be leaving those cases for the night float.”

In addition to building a sense of oppositional efficacy and developing an oppositional identity, reformers at both Advent and Bayshore created oppositional frames (Snow et al. 1986; Snow and Benford 1988) by talking about the legitimacy of new versus old practices and by discussing the unfairness of maintaining traditional practices. When reformers met with one another in free spaces, they created new arguments about patient care (promoting continuity of care in the team rather than in the individual) and resident education (advocating learning by doing, but over a longer period of time).<sup>5</sup> For example, regarding resident education, one senior Advent reformer said at a reformer-only table during lunch, “Some people say the interns won’t see enough now that they aren’t on call. But I found a journal article from a long time ago where attendings [staff surgeons] were complaining about exactly the same thing. Then it was because residents would no longer be on call every second night. . . . Even without taking as much call, interns today are seeing more than they were back then because patients are a lot more acute now. And, even if they don’t see everything this year, they will still be just as well educated by the end of residency.”

#### Reformers and Defenders Battle

As they built up oppositional efficacy, identity, and frames in free spaces at Advent and Bayshore, reformers lobbied directors for additional support and attempted to overtly challenge defenders. At both hospitals, defenders responded by retaliating directly and bringing in their allies—the staff surgeons. Thus, at this point in both hospitals (about five months after the introduction of the new programs), reformers and defenders engaged in an open confrontation with one another.

Reformer chiefs had not alerted directors earlier to problems with the

<sup>5</sup> It is interesting that in their argument about continuity of care in the team the reformers did not point out that the residents had also always shared work with nurses, lab employees, and therapists. Perhaps to preserve their own professional status, even reformers referred to the work done by those groups as less important to the care of patients.

use of the night float program because they themselves had not believed in the possibility of changing the system, had not blamed defenders for the continuation of the traditional practice, and had not framed traditional practice as problematic. Now, reformer chiefs' newly developed oppositional efficacy assured them that other reformers would act with them for change. Their oppositional identity as "not old school" led them to blame defenders for the continuation of the traditional practice. And their oppositional frames of continuity of care in the team and learning by doing over a longer period of time enabled them to delegitimize the traditional sign-out practice and argue for change.

Reformers at both hospitals successfully convinced the directors to begin reemphasizing their support of the official rule that night floats should accept handoffs from interns. This explicit reaffirmation of director support led superordinate reformers and subordinate beneficiaries at Advent and Bayshore to begin challenging defenders. Thus, interns began attempting handoffs again to defender night floats.

Predictably, defender night floats resisted these challenges. The combination of intern handoffs and defender night float resistance to these handoffs resulted in "dropped balls," which caused trouble for the chiefs and staff surgeons. For example, when interns handed off routine tasks that were not critical to patient care but were necessary for the normal functioning of the service, defender night floats often "forgot" to do them. One Advent defender chief explained, "[Intern] signed a pre-op out to the night float the other night. The night float didn't do it. So there I am doing damage control the next morning, running around trying to get this patient the right tests so he can go to the OR. Otherwise, [staff surgeon's] schedule gets all messed up."

At both hospitals, defender chiefs responded to dropped balls by blaming specific interns for tasks not completed by night floats. For example, a Bayshore defender chief became outraged when he heard that a pre-op had not been done, but rather than blaming the night float, he blamed the intern, saying, "Seniors have already done it, so why should they do it again? If I were a senior, I wouldn't want to do it." Similarly, in response to a canceled case due to an uncompleted pre-op, an Advent defender chief exploded:

I expect my interns to get it done. This is not shift work. They are getting a lot of sleep. Six to six is not the right way to go. It is your patient. The night float is not part of the team. He is covering 30 people. Something is going to slip through the cracks. The interns on the floor are my eyes and ears. It is unacceptable and it will be dealt with. It is a major screwup. The patient was already going to the OR for a 7:30 case when they discovered it.

Defenders also gossiped about specific reformers to the staff surgeons. The staff surgeons punished these reformers by making it clear to them that the staff surgeons knew about their challenges; this was serious because maintaining a good reputation during training was crucial to residents' ability to obtain further training opportunities and job placement.

At both hospitals, reformer chiefs responded to dropped balls by alerting directors to this problem and by naming specific night floats as rule breakers. Defender chiefs countered by denying that these night floats had purposely dropped balls. Directors tried to informally find out more about this in their conversations with other residents. Defender night floats heard that directors were asking about them and were angry with reformers for "whining" about them to the directors. But at this point in both hospitals, defender night floats were being supported by the powerful defender staff surgeons and chiefs and they continued to drop balls.

As dropped balls continued at Advent and Bayshore, staff surgeons expressed their anger about lapses in patient care to the directors. While the staff surgeons had expressed displeasure when the night float program was introduced, they had not continued to discuss it with the directors except in passing comments about how badly trained the future generation of surgeons was going to be. Now that the night float system was directly negatively affecting them, they began to complain to the directors that something needed to be done.

#### RELATIONAL SPACES AND SUBSEQUENT DIVERGENCE

##### Different Outcomes at Advent and Bayshore

While change processes at Advent and Bayshore were very similar at first, member action in the two hospitals diverged after defenders began to drop balls. At Advent, reformers sustained a cross-position challenge to successfully pressure defenders to change the sign-out practice, and at Bayshore they did not. I compared sign-out encounters at each hospital during two periods: prior to the introduction of the night float programs and after a consistent pattern of sign-out encounters emerged that characterized sign-outs for the remainder of the resident year.<sup>6</sup> I tracked 101 morning and evening sign-out encounters between day interns and residents covering the overnight shift on the general surgery services at the two hospitals during these two periods; I directly observed 56 encounters and received detailed reports of the other 45 shortly after they occurred. The patterns of activity were the same in both the observed and the

<sup>6</sup> To measure sign-outs in the second period, I count all sign-outs that occurred, starting with the first sign-out in the consistent pattern.

reported sign-out encounters. In addition, I asked about intern sign-out practices in my ongoing in situ interviews and found that the sign-outs I observed were comparable to other sign-outs occurring at the same time.

At both Advent and Bayshore before the introduction of the night float programs, interns did not hand off routine work in any of the morning and evening sign-out encounters I tracked. After the change process had moved into a steady state at Advent, interns handed off routine work in 91% of these sign-out encounters. In contrast, after the process had moved into a steady state at Bayshore, intern sign-out practice was unchanged (table 5).

Thus, of our two cases, one resulted in the change of a traditional work practice in response to regulation and the other resulted in the reinforcement of this same practice. How do we account for this difference?

#### Relational Spaces of Isolation, Interaction, and Inclusion at Advent and Not at Bayshore

I argue that the difference in outcomes at Advent and Bayshore is associated with the different availability in the two hospitals of relational spaces—a subset of free spaces that allowed for not only isolation and interaction but also inclusion of reformers from each of the work positions involved in changing the sign-out practice. “Afternoon rounds” meetings on services staffed with only reformers at Advent served as relational spaces because they allowed for isolation from defenders, interaction among reformers, and inclusion of residents in all work positions involved in the practice targeted for change. As I will describe below, there were also services at Bayshore that were staffed with only reformers, but afternoon rounds meetings there did not serve as relational spaces and no other relational spaces existed at Bayshore.

At both Advent and Bayshore, residents on each particular service (e.g., the vascular surgery service) had historically gathered together every evening sometime between 5:00 and 7:00 p.m. for afternoon rounds. During afternoon rounds, residents reviewed the patient-care work that had been carried out by the intern for each patient on the service that day. At both Advent and Bayshore, services were staffed in a rotating manner, so that roughly every month there was a different constellation of residents (chief, day senior, intern, and night float) assigned to each service. In many months, this constellation of residents included at least one defender, so that meetings on the service were not shielded from the social control of defenders of the status quo. However, at both Advent and Bayshore, there were months when services were staffed with only reformers and beneficiaries (but only at Advent did afternoon rounds function as relational spaces).

TABLE 5  
DIFFERENT OUTCOMES AT ADVENT AND BAYSHORE (%  
of Sign-out Encounters with Handoffs)

Hospital	Traditional System	New System (Steady State)
Advent . . . . .	0 (20 <sup>a</sup> )	91 (35)
Bayshore . . .	0 (16)	0 (30)

NOTE.—Numbers in parentheses are *N*s of sign-out encounters.  
\* Includes morning and evening sign-outs.

Table 6 displays the staffing for each of the services at Advent for each month of the resident year after the establishment of the night float program. Each chief and day senior on each service for a given month is coded as a defender (D) or a reformer (R) according to interviews conducted privately with each resident before the new program was introduced. Interns are coded with a B to denote them as beneficiaries. Each month, two of the services were staffed with a designated senior who served as the night float every night, and this resident is also coded as a defender or a reformer. The other two services were staffed with a rotating night float, so on some nights a defender was working as the night float and on other nights it was a reformer. Services at Advent that were staffed with only reformers (e.g., service 1 in September and October) had afternoon rounds meetings that served as relational spaces because they allowed for isolation, interaction, and inclusion. Staffing schedules for the year were created prior to the beginning of the resident year, and residents were assigned to particular services randomly. Thus, relational spaces existed prior to and independent of the reform effort.

At Advent, afternoon rounds on reformer-only services provided isolation from defenders because they were traditionally held with only residents who were assigned to the service present in the room. Chiefs assigned to particular services had their favorite places—such as conference rooms or isolated areas of patient floors—informally staked out for these meetings. One Advent intern distinguished nonisolated spaces from the isolated spaces that enabled him to more freely express nontraditional thoughts: “As an intern, there’s no way I’m going to speak up in front of everyone. A lot of these guys are really against the changes. You’d be crazy to suggest it [in front of the whole group]. . . . When I was on [general surgery service] with [reformer chief] and [reformer day senior], they were both very open to trying new things. So I felt comfortable suggesting things like how to handle pre-ops. We tried things and it worked well.”

Advent afternoon rounds also facilitated face-to-face interaction. Chiefs

TABLE 6  
RELATIONAL SPACES AT ADVENT: STAFFING OF SERVICES BY MONTH

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Service 1:												
Chief .....	D	D	R*	R*	R	D	D	D	R	R	D	D
Senior .....	D	R	R*	R*	R	R	R	D	D	D	D	D
Intern .....	B	B	B*	B*	B	B	B	B	B	B	B	B
Night float ...	D	D	R*	R*	D	R	R	D	R	R	R	D
Service 2:												
Chief .....	D	D	D	D	D	R*	D	D	R*	R*	R*	R
Senior .....	D	D	D	R	R	R*	D	D	R*	R*	R*	R
Intern .....	B	B	B	B	B	B*	B	B	B*	B*	B*	B
Night float ...	D	D	R	R	D	R*	R	D	R*	R*	R*	D
Service 3:												
Chief .....	D	D	D	D	D	D	R*	R*	R	R	R*	R*
Senior .....	R	R	R	D	D	D	R*	R*	D	D	R*	R*
Intern .....	B	B	B	B	B	B	B*	B*	B	D	R*	R*
Night float ...	D	D	R	R	D	R*	R	D	R*	R	B	B*
Service 4:												
Chief .....	D	D	D	D	D	D	R*	R*	R	R	R*	R*
Senior .....	R	R	R	D	D	D	R*	R*	D	D	R*	R*
Intern .....	B	B	B	B	B	B	B*	B*	B	B	B*	B*
Night float ...							Rotating					
Service 4:												
Chief .....	D	D	D	R*	R*	R*	R*	R*	D	D	D	D
Senior .....	R	R	D	R*	R*	R*	R*	R*	D	D	D	D
Intern .....	B	B	B	B*	B*	B*	B*	B*	B	B	B	B
Night float ...							Rotating					

NOTE.—D = defender; R = reformer; B = beneficiary. Includes residents from postgraduate years directly involved in making the change in sign-out practice. Interns rotate every four weeks, seniors rotate every four–six weeks, and chiefs rotate every eight weeks, so not every D, R, or B connotes a different person.

\* Member of a relational space in this service and month.

and seniors had historically spent time in afternoon rounds asking interns about that day's surgeries and about appropriate care for patient conditions as well as fraternizing with one another. Thus, Advent afternoon rounds allowed residents on reformer-only services to gather and spend some time together. An Advent reformer senior explained, "Afternoon rounds are important because it's a time for everyone on the service to be updated on what everyone else is doing. . . . In morning rounds, everyone is rushing to get to the OR and then we are all running around all day. In afternoon rounds, we have time to talk about how things are going. It's more relaxed."

Finally, Advent afternoon rounds included members from each of the positions involved in the practice targeted for change. At Advent, the chief, senior, and intern on the service had traditionally attended afternoon rounds. Once the night float program was established, the night float usually also joined in for at least some portion of afternoon rounds. The inclusive character of Advent afternoon rounds was important because any change to the sign-out practice would require the coordination and cooperation of residents from each of the different work positions on the service. One Advent reformer senior noted, "All of us spending time together during afternoon rounds is especially important in this new system. If the intern has work left to do, the chief and I can find out what it is and can take some of it to help out."

Afternoon rounds at Bayshore did not allow for isolation, interaction, or inclusion (table 7). They did not allow for isolation, even on reformer-only services, because they were held in the surgical resident lounge, where residents not assigned to the service were present working on the lounge's computers. Like Bayshore, Advent had a surgical resident lounge, but the Advent lounge had a TV and did not have computers in it. The Advent lounge was seen as a social space rather than a workspace in which to hold afternoon rounds.<sup>7</sup> Afternoon rounds at Bayshore did not allow for interaction apart from the work itself because they were limited to reporting on the status of patient plans. Finally, they did not allow for inclusion because, due to historical work routines, only the chief or the day senior typically attended afternoon rounds with the intern, with the chief checking in with the intern by phone later when he or she was not present during rounds.

The differences between afternoon rounds at Advent and Bayshore were displayed in high relief at a community hospital staffed by residents from both hospitals a few months before the night float programs were introduced. Historically, the work at this community hospital had been organized so that there was one surgical service staffed by Advent resi-

<sup>7</sup> In neither case did staff surgeons spend any time in the resident lounges.



TABLE 7  
FREE SPACES AND RELATIONAL SPACES AT ADVENT AND NOT BAYSHORE

	ADVENT AND BAYSHORE ALL- REFORMER LUNCH TABLES OR CALL ROOMS	AFTERNOON ROUNDS ON REFORMER- ONLY SERVICES	
		Advent	Bayshore
Type of space	Free	Relational	Neither free nor relational
Isolation from defenders	Yes; meetings held in areas without defenders	Yes; meetings held in private conference rooms	No; meetings held in surgical resident lounge
Interaction (intimate conversation focused on issues other than work itself)	Yes	Yes	No
Inclusion (all members involved in practice targeted for change)	No; all members from same service not present	Yes; chief, senior, intern, and night float present	No; chief and intern or senior and intern present with other member checking in by phone later

dents and a separate surgical service staffed by Bayshore residents. But during this time, the schedule was reorganized so that residents from Advent and Bayshore worked on services together. There was such an outcry from residents from both hospitals that the schedule was quickly switched back. One of the major reasons for the distress was the different expectations about afternoon rounds. Bayshore residents complained that Advent residents “rounded all over the damn hospital,” “rounded all day long,” and were “uptight about mandatory attendance at rounds”; Advent residents, in turn, characterized Bayshore residents as “slackers” who “hung out talking in the lounge” and “always tried to get out of coming to rounds.” These respective outraged reactions were illustrative of the very different kinds of spaces provided by afternoon rounds meetings at the two hospitals.

In addition to afternoon rounds not functioning as relational spaces at Bayshore, there were no other places at Bayshore that could serve as relational spaces. For example, while Bayshore free spaces in the cafeteria and hallways enabled isolation and interaction, they did not, in practice, allow for inclusion. I never observed a situation where all residents on a reformer-only service ate lunch together. Residents assisted surgeons in the OR during the day, and it was extremely rare for all residents on the

TABLE 8  
 CREATION OF NEW CAPACITIES IN FREE SPACES AND RELATIONAL SPACES (% of  
 Observed Meetings)

	LUNCH TABLES OR CALL ROOMS*		AFTERNOON ROUNDS*	
	Advent	Bayshore	Advent	Bayshore
Type of space .....	Free	Free	Relational	Neither
Oppositional mobilization:				
Building oppositional efficacy:				
Telling stories about defiance of defenders .....	27	32	26	0
Reassuring colleagues of willingness through reciprocal stories .....	16	20	10	0
Developing oppositional identity:				
Talking about "us" vs. "them" .....	77	83	81	0
Defining "them" as adversaries who need to be challenged .....	46	50	32	0
Creating oppositional frames:				
Talking about legitimacy of new vs. old practices .....	60	56	77	0
Discussing the unfairness of maintain- ing traditional practice .....	35	42	29	0
Relational mobilization:				
Building relational efficacy:				
Coll. identifying task problems .....	0	0	61	0
Jointly negotiating task solutions .....	0	0	55	0
Developing relational identity:				
Demonstrating new language and demeanor in front of one another ...	0	0	97	0
Offering help across positions in front of one another .....	0	0	84	0
Creating relational frames:				
Justifying new task allocations or role behaviors .....	0	0	42	0
Reinforcing justifications in front of team .....	0	0	23	0
<i>N</i> observed meetings .....	83	66	31	22

NOTE.—Data are from the meetings for which I have detailed notes; there was no difference in how I chose which meetings to record in detail at Advent and Bayshore. I observed a greater number of Advent meetings because, as noted in text, Bayshore reached steady state sooner.

\* "All-reformer lunch tables or call rooms" vs. "Aftenoan rounds on reformer-only services."

service to be out of the OR at the same time. Thus, cafeteria tables provided for isolation and interaction but not for inclusion. Similarly, I never saw all residents on a reformer-only service gather with one another in a hallway or call room during the day.

One might wonder whether the differences in outcomes at Advent and Bayshore are a result of a difference in organizational culture or status at the two hospitals, with Advent's culture or high status promoting change and Bayshore's culture or middle status promoting stability. If Advent's culture or status were what led to change in the sign-out practice, we would expect to have seen change attempted by Advent reformers in afternoon rounds on services staffed with both reformers and defenders as well as on reformer-only services, and I did not see this. Thus, it appears that while a particular kind of culture or high status may predispose organization members to attempt change, whether members actually succeed in effecting change will depend on whether the organization has relational spaces available for reformers. To put it differently, we cannot attribute the difference in outcomes simply to a difference in organizational culture or status at the two hospitals.

In order to explore what happened at Advent, I coded data from 31 meetings in relational spaces. I found that these spaces enabled reformers to engage in relational mobilization processes with reformers in different work positions on their services (table 8). Without access to relational spaces, Bayshore reformers did not engage in relational mobilization processes and so were not able to sustain a cross-position challenge in the face of fierce defender resistance.

#### RELATIONAL MOBILIZATION AND SUCCESSFUL CHANGE AT ADVENT

##### Advent Reformers Build Relational Efficacy

While reformers at both Advent and Bayshore built a sense of oppositional efficacy against defenders, only at Advent did they build what I call *relational efficacy*—an assurance that reformers in different work positions would each complete the diverse tasks required to successfully accomplish a new sign-out practice. Reformers at Advent built relational efficacy by collectively identifying practice problems and by jointly negotiating solutions.

In afternoon rounds meetings on reformer-only services, Advent reformers collectively identified the problems they were having with implementing their new interdependent practices. For example, an intern reported that, because he was no longer arriving before morning rounds, he could not write progress notes in the patients' charts before going to

the OR at 7:00 a.m. Similarly, a day senior noted that he would like to help the intern with implementing patient plans but had no way of knowing whether these plans had changed since morning rounds. Since afternoon rounds included members from each of the work positions involved in the sign-out practice, these members had a forum for identifying problems stemming from their new ways of working.

In addition to identifying new practice problems, reformers negotiated joint solutions to these problems. Changes in practice between two members of the team often required change by a third team member. For example, in one afternoon rounds meeting, a reformer night float replied to the intern's concern about patient notes by saying that he could write the patient notes overnight so that the intern did not need to arrive early to do this before morning rounds. But, on nights that were very busy, he would not be able to get to it. The chief supported this plan and suggested that in these circumstances it was fine for the intern to write the notes later in the day. Similarly, when a reformer day senior said that he was hampered in helping the intern because he did not know about ongoing changes to patient plans, the chief suggested that he could change his own practice and begin sending patient plan updates to the whole team rather than just to the intern.

Since team members on the service frequently interacted with one another outside of afternoon rounds meetings, they also improvised new solutions during the day. These improvisations led to either new problems or new ways of accomplishing tasks, which were then discussed in the afternoon rounds meetings so that proposed changes could be negotiated with all members involved. For example, in one instance, the day senior helped the intern by admitting a new patient when the intern was in the OR. However, the day senior did not have the opportunity to tell the intern he had done this, and when the intern left the OR, he received a nurse's page with a question about the new patient whom he knew nothing about. At afternoon rounds, the intern noted this problem, and the reformers decided that whenever a resident on the service admitted a new patient, this resident would send everyone on the service an e-mail documenting key details about the patient.

#### Advent Reformers Develop Relational Identity

While at both Advent and Bayshore reformers created an oppositional identity as "not old school" in contrast to defenders, only at Advent did reformers build what I call *relational identity*—a new sense of self in relation to reformers in other work positions. Advent reformers created relational identity by using language and demonstrating a demeanor in front of one another that supported the new task allocation.

During afternoon rounds meetings on reformer-only services, reformers used language to elaborate new role expectations for each work position that were different from the traditional expectations. They referred to chiefs as “coaches” rather than “commanders,” to day seniors as “team players” rather than “wingmen,” to night floats as “members of the team” rather than “stopgaps,” and to interns as “rookies” or “good prioritizers” rather than as “beasts of burden.” For example, in afternoon rounds one day, the day senior informed the intern, “If I’m out of the OR and you’re in the OR and an admit comes in, I’ll do it. I know that a lot of the old school guys just wait for the intern to get out and do it. I know seniors aren’t expected to do it. But I believe in the team concept, in everyone working together to take care of the patients.”

A change in role expectations for one member on the service often required a change in role expectations for another. For example, once a day senior started acting as a team player toward the intern by taking on routine work, that day senior could no longer act as a wingman toward the chief by being available at all times as backup. Because all residents involved in the sign-out practice were present at afternoon rounds, they were able to negotiate changes in interdependent role relations with all involved.

Reformers also elaborated new role expectations by using nontraditional demeanors with one another. For example, reformer chiefs encouraged group discussion and decision making among residents at all levels rather than holding the floor and issuing orders without explanation. Similarly, both chiefs and seniors treated interns with warmth and respect rather than aggressively “pimping” them and using punitive methods of discipline. Interns acted relaxed with reformers in other positions rather than tense and subservient as they did on services staffed with defenders.

Advent reformer chiefs and seniors presented themselves as willing to help the interns do any type of work that needed to be done rather than avoiding work that had not traditionally been done by residents at their respective levels. For example, in one afternoon rounds meeting, the day senior and the chief offered to enter orders and a discharge so that the intern could finish some of his other tasks by the end of his shift. An excerpt from my field notes of this meeting says, “[Intern] finishes running through patient updates. [Day senior] says that he can put the orders in. [Intern] hesitates and says OK (doubtfully). [Chief] tells intern to go and that he will write the discharge on [patient]. [Intern] says OK and leaves. [Chief] goes to the computer to enter the discharge order.”

As all members on the service offered help to one another, they began to develop friendly and trusting relations and to see themselves as a team. Feelings of attachment to other team members made them feel comfortable deviating from traditional role expectations. Because residents in all

work positions were present in afternoon rounds, each resident knew that the others were open to offering and receiving help across positions. For example, one intern said, “Now that I’ve gotten to know [night float], I know that he is being sincere when he tells me to hand off my pre-ops and post-ops. He’s a good guy. I know that he’s not going to go around telling other people that I’m weak. . . . I also know that [chief] knows that I’m handing off, and that this is okay with him.”

#### Advent Reformers Create Relational Frames

While reformers at both Advent and Bayshore created oppositional frames against defenders, only at Advent did reformers build what I call *relational frames*—frames that explained new role relationships. They did this by justifying new task and role expectations and by reinforcing new frames in front of one another.

Advent reformers legitimated new task allocations and role behaviors in afternoon rounds meetings on reformer-only services as they explained to one another why it was fair for them to work in new ways. For example, during afternoon rounds one day, a reformer day senior said, “Some of the night floats have been complaining that interns are giving them work to do. They are grumbling that the interns are giving them attitude, and they’re refusing to take post-ops that came out [of the OR] before they arrived.” The reformer chief justified the new task allocation between intern and night float by replying, “The purpose of the night float is to take the intern sign-out so interns can leave the hospital. It is unfair to the interns otherwise.” The chief then turned to the intern on the team: “You need to be signing everything out to [night float] at 6. Otherwise, the longer you’re here, the longer you’re here. You will never get out of here if you don’t do it.”

Here it was important to have all members involved in the sign-out practice present because a change in frame for the night float (from “I already paid my dues” to “the purpose of the night float is to take the intern sign-out so the intern can leave”) also required a change in frame for the intern (from “I need to be the first one here and the last to leave” to “the rules require me to leave the hospital”). Because both the night float and the intern were present, both residents were able to hear these new, interdependent justifications.

In addition to justifying new task allocations and role expectations, reformers reinforced the justifications expressed by others and thus developed team frames. For example, in the interaction described above, the rotating night float was a reformer and she reinforced the chief’s frame, saying, “It’s my job to take your sign-out. That’s what I am here for. I have time.” Here it was important to have members in each work

position present so that they could all commit to new frames. One reformer chief noted to me that he purposely discussed rationales for handoffs in front of the whole team rather than in individual conversations in order to demonstrate his support for change to everyone on the service.

#### Advent Reformers Sustain Cross-position Challenge and Defenders Accommodate Change

By creating the new capacities of relational efficacy, identity, and frames in relational spaces at Advent, reformers built a cross-position collective that enabled them to sustain their challenge against fierce resistance by defenders. In the face of dropped balls, continued overt challenge was risky not only for interns but also for reformer chiefs, day seniors, and night floats. Reformers from each of the different work positions sustained their commitment to collective action for change in the face of such risks by drawing upon and adding to their newly created relational efficacy, identity, and frames. For example, interns continued to attempt handoffs despite punishment and reputational risks because reformer chiefs, day seniors, and night floats had demonstrated new behaviors toward them and had argued that the new task allocation between interns and other team members was justified. One intern said, “In the beginning, I felt bad about signing out. The night floats would be at dinner bragging that they still had a few hours before the interns were ready to sign out. . . . After being with a few helpful night floats and chiefs, I began to look at it differently. Now I feel like I’m not asking for a favor. I’m just sticking by the rules.”

Reformer day seniors continued to help interns with routine tasks because they saw themselves as team players and because they had developed friendship bonds with the interns that made them want to help them. Reformer night floats continued to overtly accept handoffs because it was “their job,” even though they were sanctioned by some of their peers for doing so and even when there was clearly no personal benefit to them from changing the sign-out practice and therefore taking on more work. One reformer night float said, “Some of the night floats are way too focused on what the interns aren’t doing instead of on the fact that we get to go home at night now on every rotation except this one. One scut rotation is a small price to pay for getting to work 80 hours a week instead of 100.”

Similarly, reformer chiefs assisted in the successful accomplishment of handoffs by handling “minor snafus” and not denigrating the interns involved with them. They did this because they had seen that it was possible to effectively accomplish the sign-out practice with handoffs as long as other residents on the service were willing to take on nontraditional tasks

and because they saw themselves as coaches of teams rather than as commanders of wingmen and beasts of burden. One chief noted,

Some people are old school and say, "I'm going to do it myself." For me, it is the team that is going to take care of everything. Each of us takes personal responsibility to make sure that patient care is the best it can be, but that doesn't mean doing it all yourself as long as all of the pieces fit together. . . . My job as chief is to be like a coach, to teach and be supportive and clue into when people are having problems. . . . Interns can still learn responsibility for patients even if they don't do everything themselves. The night floats are part of the team. They need to be taking responsibility overnight.

Because reformers sustained their challenge, dropped balls at Advent continued and staff surgeons became more and more upset. When staff surgeons expressed their anger about lapses in patient care to the directors, reformer chiefs pointed out that dropped balls were not a necessary outcome of handoffs. They argued that handoffs between interns and reformer night floats had been handled easily without lapses in patient care whenever the chief, senior, and night float on the service had been willing to work in a less hierarchical manner by taking on routine work. These reformer chiefs suggested that since the staunchest defenders were the rotating seniors on the night float team (position 3) who both did not want to do "intern work" and were "not committed" to the service because they were working on the night float team only once or twice a week (vs. the position-2 night float seniors, who also did not want to do routine work but who were more committed to the service because they worked on the night float team six nights a week for an entire rotation), Advent could solve the problem by replacing these rotating seniors with a designated intern. There was an intern assigned as a "day float" on the general surgery services, and reformers suggested that this intern could be moved to cover position 3 for an entire rotation (so that this intern's rotation would now consist of working overnight as a night float rather than working during the day as a day float). The directors talked to the staff surgeons about this possibility, but staff surgeons initially resisted the idea because they did not want to lose extra help with coverage during the day.

However, problems associated with dropped balls continued, creating a crisis for staff surgeons. Presented with the evidence of successful handoffs among reformers, ten-and-a-half months after the introduction of the night float program and five months after the advent of dropped balls, the staff surgeons accommodated the suggestion and agreed to have the intern from the day float position replace the senior in the rotating night float position. Similarly, defenders who had previously argued that han-



doffs were detrimental to patient care now began to suggest that handoffs were not so much of a problem. For example, one of the previously defending chiefs said, “I was definitely concerned that with all of the handoffs patient care would suffer. But it is fine, because people are extremely conscientious.” The previously defending chiefs also now suggested that although the interns might learn more slowly, they would learn all they needed to know by the end of residency. One said, “It might be that they can’t put in chest tubes and lines themselves. But that’s a technical thing that can be taught in their second year. That is not what makes a good intern or a good doctor. I’ll teach them lines and chest tubes next year.” Once the intern was moved onto the night float team, and the previously defending staff surgeons, chiefs, and seniors came to terms with handoffs, night floats began to accept handoffs in sign-out encounters.

It is interesting that the position-2 senior on the night float team was now willing to accept handoffs of intern work when he or she had not been willing to before. Residents explained that this occurred for several reasons. First, now even the previously resistant defender chiefs and staff surgeons supported handoffs. Second, before the rotating night floats were replaced with the single intern, the position-2 resident had been part of a larger group of night floats composed of both this resident and the rotating position-3 residents. Now that this rotating group of residents was replaced in position 3 by one intern who was supporting change, if the position-2 night float had continued to drop balls, he or she would have been highly visible as a single person resisting handoffs.

In addition to making it more likely that night floats would accept handoffs, the new support of the prior defenders at Advent also made it easier for interns to attempt handoffs. One intern who had not attempted handoffs since the very beginning of the year reported, “I’ve started handing off. . . . I used to think of night floats as not part of the team—that they were stopgaps just to get the patients through to the next day. Now even the old school chiefs assume that the night float will do it. Before, as the intern, I would think, ‘It’s my fault if it doesn’t get done.’” With the change in staffing, handoffs in sign-out encounters became the new steady-state practice at Advent.

#### NO RELATIONAL MOBILIZATION AND FAILED CHANGE AT BAYSHORE

While midlevel reformers and subordinate beneficiaries on reformer-only services at Advent used the relational spaces their afternoon rounds provided to build capacities for cross-position collective action, at Bayshore

there were no spaces, even on reformer-only services, that allowed for isolation, interaction, and inclusion. In the absence of relational spaces, Bayshore reformers did not develop an assurance that reformers in different work positions on the service would each complete the diverse tasks required to successfully accomplish a new sign-out practice. They did not develop new role expectations for residents in different work positions. And they did not create justifications for a new task allocation and role expectations. Without building a new relational efficacy, identity, and frames, they were not able to create a unified collective and sustain a cross-position challenge in the face of defender resistance.

#### Bayshore Reformers Do Not Build Relational Efficacy

Without access to spaces that enabled the inclusion of reformers from each of the work positions involved in the practice targeted for change, Bayshore reformers did not create relational efficacy by collectively identifying problems and negotiating joint solutions. In free spaces such as cafeteria tables, hallways, and call rooms, I sometimes saw Bayshore reformers identifying problems to one another and even talking about solutions. But reformers who congregated in free spaces often were not working on the same service as one another. Without reformers on the same service from each of the work positions involved in the sign-out practice involved in these conversations, reformers were not able to contribute all perspectives on problems or to negotiate solutions with one another. For example, in one call-room conversation, two reformer day seniors on different services suggested several solutions to the problem of interns staying late—rounding early to identify what routine tasks were left to do so that others on the service could help the intern with these tasks and having the intern and the night float take more time to discuss what needed to be done overnight:

*Reformer 1:* The interns are still staying late every night. I think we need to improve this. The night float should take over the duties early enough so that others can go home. We need to make a habit of rounding earlier. Then if the intern is swamped, we can help.

*Reformer 2:* The problem is that the way it is now, the intern can ask the night float but there is only a 40% likelihood that it will get done. Sometimes the night floats don't know what is supposed to be done. The interns have to take care to make sure the night floats know what is going on.

One of these reformer day seniors was working on a reformer-only service at the time, but none of the other reformers from that service were present for this conversation. Thus, this day senior did not have a forum

to negotiate these potential solutions with the chief, intern, and night float on the service, and the solutions were not implemented.

Sometimes new practices were attempted, but “things fell through the cracks” and there was no space for negotiating joint solutions to problems. For example, one night an intern on a reformer-only service had several admits left to do, so he told the reformer night float during sign-out about a lab test that needed to be done. The patient had a colon infection, and the chief wanted a lab test to document the white cell count before starting antibiotics so that the effectiveness of the drugs could be measured. The intern updated the night float about the necessary lab test for this patient while running through the list of patients and ended his sign-out by saying, “If you could draw labs, it would be great,” meaning for the night float to do a lab test on this particular patient. The night float thought that the intern was asking him to draw labs on the newly admitted patients and so did not draw labs for the patient with the colon infection. The next morning, the reformer chief was upset that the labs on this patient had not been drawn. At Advent, such problems had also occurred and team members had jointly talked through communication mishaps to try to develop new systems for ensuring that necessary information was properly understood by all. At Bayshore, no group discussion occurred between the chief, day senior, intern, and night float on the service, so this problem was seen as an example of something falling through the cracks rather than as a logistical problem that could be collectively solved using a new division of labor.

#### Bayshore Reformers Do Not Develop Relational Identity

In the absence of spaces where reformers from each of the work positions involved in the sign-out practice were present, Bayshore reformers on reformer-only services also did not create a new relational identity by collectively elaborating new role expectations or offering help across work positions in front of other members on the service. In free spaces, I sometimes saw reformers from reformer-only services adopting nontraditional language or demeanors with one another and offering help to one another. But, since the members of that reformer-only service did not all gather together as a group, reformers in each different work position did not have the opportunity to create commitment to a new interdependent set of roles with one another. Because they had not developed new roles, reformer chiefs and day seniors who helped interns saw themselves as “being nice” as opposed to acting appropriately for someone in their position.

Similarly, interns who handed off routine tasks to reformer night floats that these night floats did not complete blamed themselves rather than

expecting the night floats to do these tasks and working with them to solve problems. For example, one reformer night float told the intern on their reformer-only service that she was happy to write progress notes in the patients' charts overnight so that the intern could take care of more urgent tasks before leaving the hospital, but one night the night float was not able to do it. The intern told me, "Today I came in for rounds at 6:00 a.m., but not all of the progress notes were done. There was no time for me to do them between answering pages and going to the OR. So I had to take the progress notes to the conference and try to write them there, and they didn't get done until the end of the day."

A similar problem had occurred at Advent and had been addressed in an afternoon rounds meeting with all team members present. There, the team had agreed that it was fine for notes to be written later in the day by the intern when the night float had been too busy to get to them; this developed the expectation that the night float as a "member of the team" was responsible for progress notes. At Bayshore, without such a change in role expectations, the intern blamed himself for what he perceived as failing to do his own work. Because the chief expected the night float to be a stopgap rather than a member of the team and expected the intern to be a beast of burden rather than a good prioritizer, the chief did not ask the intern about the circumstances and blamed the intern as well.

#### Bayshore Reformers Do Not Create Relational Frames

Finally, I did not observe Bayshore reformers working on reformer-only services collectively justifying new tasks and roles or reinforcing new frames with all others on the service. I did observe reformers in particular work positions justifying new task allocations or role behaviors to one another as they interacted at meals or in hallways or call rooms. However, without the chief, day senior, intern, and night float from the service all involved in these discussions, there was no opportunity to get collective buy-in to these justifications from all members involved in the sign-out practice or for members to demonstrate their commitment to these frames in front of one another. For example, I observed a reformer chief on a reformer-only service tell the intern on the service that it was necessary for the day senior to do some routine work so that the intern could leave at the end of his shift. Without the day senior present, there was no opportunity for the chief to persuade him that the new task allocation and role behavior were justified. In addition, there was no opportunity for the intern to see if there was consensus among other service members around this justification offered by the chief.

Bayshore Reformers Do Not Sustain Cross-position Challenge and Defenders Do Not Accommodate Change

Interestingly, the same solution that was used successfully at Advent to facilitate handoffs was available at Bayshore—there was an intern serving in a day float position who could have been moved to replace the rotating night float. Bayshore reformers suggested this to the directors and the directors talked to the staff surgeons about this possibility. Like the ones at Advent initially did, staff surgeons at Bayshore resisted this idea because they did not want to lose extra help with coverage during the day.

However, unlike at Advent, reformers at Bayshore did not continue to challenge defenders in the face of dropped balls, so there was no crisis at Bayshore to force the staff surgeons to accommodate reformer demands. Without a new relational sense of efficacy, reformer chiefs were concerned that it might not be possible to accomplish handoffs without dropped balls. One reformer chief said, “[Reformer senior] was trying to help the intern during the day, but it didn’t work. Things inevitably fell through the cracks, even though [reformer senior] was trying to be helpful. . . . It may be that it’s just not possible in surgery for this to work.”

Without a new relational identity outlining new role expectations, reformer day seniors saw themselves as wingmen to the chiefs and reformer night floats saw themselves as stopgaps handling emergencies overnight rather than as team players who helped interns with routine tasks. Without relational frames justifying new task allocations, interns believed that routine work was their job and that it was their own fault if they were not fast enough and were left with tasks at the end of their shift. Reformer chiefs and day seniors felt that routine work was intern work rather than work that they should be taking on to ensure that the intern did not have many tasks left at the end of the day. In the end, without these new relational capacities, and in the face of resistance from defenders, reformers stopped attempting handoffs, and Bayshore reformers failed to accomplish change in the sign-out practice (at least during the time of this study).

DISCUSSION

Relational Spaces and the Importance of Inclusion

These findings contribute to the literature on institutional change in response to regulation and to the literature on social movements in several ways. Institutional theorists have shown that organizational response to institutional pressure is associated with particular environmental characteristics such as dominant beliefs, norms, and resources (e.g., Edelman

1990; Ruef and Scott 1998; Scott et al. 2000), regulatory regimes (Tolbert and Zucker 1983; Baron et al. 1986; Katzenstein 1998) and community-specific requirements (Lounsbury 2007; Marquis, Glynn, and Davis 2007), particular organizational characteristics such as alignment with the public sector (Dobbin et al. 1988; Edelman 1992), existence of a personnel office (Baron et al. 1986; Edelman 1992), and organizational performance (Westphal and Zajac 1994), and particular top-manager characteristics such as work background (Fligstein 1990) and professional identity (Binder 2002; Rao et al. 2003). Since Advent and Bayshore were matched on each of these environmental, organizational, and top-manager characteristics, these characteristics alone may not be sufficient for explaining change in an institutionalized work practice. Such change may also depend on microlevel processes occurring inside organizations (Barley 1986, 2008; Zilber 2002; Reay, Golden-Biddle, and Germann 2006; Powell and Colyvas 2008). The present study adds to our understanding of microinstitutional change by demonstrating that, in the face of resistance by defenders of the status quo, the emergence of relational efficacy, identity, and frames are necessary for change to occur, and relational spaces are at least one route to getting there.

The isolation from defenders that relational spaces provide is critical to change because midlevel reformers and their subordinates are often not comfortable trying out new task allocations, expressing new identities, or discussing nontraditional ideas when defenders are present, for fear of retaliation. This discomfort may be especially pronounced for lower-status reformers who are in the numeric minority (Loyd 2008). Having a setting for interaction apart from work itself is crucial because it facilitates discussion of new tasks, identities, and frames. Finally, inclusion of reformers from all of the different work positions involved in the practice targeted for change is important because it enables collective coordination and negotiation of new relational tasks, roles, and frames. Since shared communication contexts have been shown to reduce conflict (Hinds and Mortensen 2005), one might think that to accomplish change in a work practice in response to regulation it is necessary to bring defenders and reformers together to plan and implement compliance programs with one another. However, the findings presented here suggest the opposite. For routine practices to change when defenders of the status quo resist it, reformers from each of the work positions involved in the work practice must have spaces apart from defenders to coordinate their efforts with one another.

In addition to contributing to institutional theory, the concept of relational spaces contributes to social movement theory. Social movement theorists have highlighted the importance of free spaces in allowing reformers to ready themselves for a collective challenge of defenders of the status quo (e.g., Fantasia and Hirsch 1995; Gamson 1996; Polletta 1999).

Yet previous studies of free spaces have documented successful mobilization efforts without detailing failed efforts (to determine if there were no free spaces available in those efforts), so it is not clear from past research that free spaces can really explain success. In addition, social movement theorists have not explored what kinds of spaces are necessary when the challenge being mounted requires reformers to carry out different yet interdependent tasks. This is unfortunate because challenges interesting to social movement theorists often require such a division of labor. For example, during the bus boycotts of the Civil Rights movement, a division of labor was required for successful challenge: some reformers needed to avoid using buses, while others needed to provide transport for the boycotters (e.g., McAdam 1982). According to the argument presented here, reformers likely used relational spaces to coordinate their efforts in this case, but these spaces and the processes occurring within them have not been previously examined.

The role of relational spaces in social movement processes may be particularly important inside organizations. Theorists have used social movement concepts to describe how mobilization occurs in organizational fields and inside organizations (e.g., Rao, Morrill, and Zald 2000; Lounsbury, Ventresca, and Hirsch 2003; Davis et al. 2005; McAdam and Scott 2005; Briscoe and Safford 2008; Davis et al. 2008) and inside organizations (e.g., Zald and Berger 1978; Lounsbury 2001; Scully and Creed 2005; Kaplan 2008; O'Mahony and Bechky 2008). These scholars have argued that mobilization may look different inside organizations because of the important role played by top managers (Scully and Segal 2002; Raeburn 2004; Clemens 2005; Zald, Morrill, and Rao 2005; Weber, Thomas, and Rao 2009). The findings presented here suggest that even when top managers are committed to change, relational spaces may be necessary for mobilization inside organizations to occur. Reformers trying to create a unified group across different work positions may need such spaces to coordinate their completion of different yet interdependent tasks before they can effectively challenge defenders.

#### Relational Mobilization and the Building of a Cross-position Collective

In addition to explaining the importance of relational spaces, these findings add to social movement theory and institutional theory by detailing the institutional change process of relational mobilization—the building of capacity for challenge among reformers in different positions. While social movement theorists have explained how oppositional mobilization (mobilization against defenders) occurs (e.g., Fantasia 1988; Gamson 1992*b*; Taylor and Whittier 1992; Polletta and Jasper 2001), they have not explored how relational mobilization (mobilization in relation to other

reformers) happens. As social movement theorists would predict, reformers at both Advent and Bayshore used free spaces to build oppositional capacities that allowed them to challenge defenders of the status quo. They built a sense of oppositional efficacy that made them willing to take risks and assured them that others would act with them to challenge defenders. They created an oppositional identity that made it easier for them to act “inappropriately” to challenge defenders and gave them a sense of obligation to act on behalf of their group. They developed oppositional frames that identified a problem and specified a collective solution.

Despite this, change occurred at Advent and not at Bayshore because at Advent, in addition to generating oppositional capacities for collective action against defenders, reformers generated relational capacities for collective action with one another. The building of relational efficacy—a sense of hope that change was possible through the use of a new division of labor among reformers—occurred as reformers collectively identified task problems and jointly negotiated task solutions. The development of relational identity was accomplished as reformers demonstrated new language and demeanors and offered help across positions in front of one another. Relational frames were created as reformers justified new task allocations and reinforced new relational frames with one another. Relational mobilization facilitated the development of a cross-position collective that allowed reformers to be successful in their fight against defenders in a situation where the challenge being mounted required coordination and cooperation among reformers in different work positions.

An understanding of relational mobilization contributes to institutional theory as well as to social movement theory. Theorists have begun to build an institutional theory of the remediation of inequality, suggesting that the structure of workplace programs can counteract work practices that disadvantage particular groups of employees (Kalev et al. 2006; Castilla 2008), particularly since lack of structure makes opportunities for inequality more likely (Fernandez-Mateo 2009). For example, Kalev et al. (2006) have documented that workplace programs that assign accountability for change to line managers are effective in increasing the proportions of white women, black women, and black men in management positions while programs that attempt to train managers in the benefits of diversity or help women and minorities to combat social isolation through networking are not.

The findings presented here suggest that a workplace process—relational mobilization—can also help remediate inequality. At both Advent and Bayshore, directors created weak structures of accountability: they assigned responsibility for the change to the chief residents but did not



track residents' weekly work hours to evaluate progress because they feared that this tracking might be seen by the regulatory agency before they had successfully accomplished change. Yet, despite a weak structure of accountability similar to the one at Bayshore, relational mobilization enabled change at Advent.

#### Future Research

This analysis raises several questions for future research. Since studies of compliance with this work-hours regulation show that only a third of hospitals that have introduced compliance programs have actually used these programs to make the required change (Landrigan et al. 2006), there must be a number of reasons for merely symbolic compliance. A claim that relational spaces are the only factor accounting for the difference in outcomes at these hospitals would not do justice to other possible conditioning factors that a comparative ethnographic study cannot detect.

First, there were several factors that were present at both Advent and Bayshore that were clearly important to the change process—supportive top managers, a cadre of committed reformers, and free spaces—and because these factors were present at both sites it is not possible to know how they each affected the process. Future research could explore what critical mass of reformers is required for successful change. It could also investigate what types of top-manager resources best enable change in daily work behaviors. Finally, it could elaborate whether some oppositional mobilization processes that occur in free spaces are more important than others.

Second, this kind of observational study cannot identify unobservable factors that may have influenced the change process. For example, defenders' or reformers' relationships with their superiors, colleagues, or professional association may have led to power differences playing out in the two different hospitals and beyond that were not detected. In addition, it is possible that unobserved personality differences or social skill differences (Fligstein 1997) between reformers at the two hospitals led Advent reformers to be more open to change or better at accomplishing it. Future research mapping structure in the patterns of ties between groups of actors (e.g., Wheat 2005) and testing for reformer characteristics could examine the effects of these additional factors.

In sum, this study elaborates how change in institutionalized practice inside an organization can be accomplished in response to regulation in the face of resistance from defenders of the status quo. Even when top managers support a new program to change an institutionalized practice, middle managers whose interests run counter to the new program are likely to resist it and to attempt to persuade their subordinates to refrain

from using it. I demonstrate here that middle managers sympathetic to reform and their subordinates can successfully change practice in such a situation by interacting with one another in spaces of isolation, interaction, and inclusion to build new task allocations, new role expectations, and justifications for these new tasks and roles. This relational mobilization can enable reformers to sustain a cross-position challenge in the face of defender resistance and to pressure defenders to change practice. In this way, relational spaces and relational mobilization enable the microinstitutional change that new regulation is designed to promote.

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