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## Competing Institutions: Law, Medicine, and Family in Neonatal Intensive Care

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To understand the varying impact of law, we must compare the effects of legal institutions with the effects of rival institutions and the impact one law with the impact of another. We must also ask how the setting in which institutions compete and laws are implemented—very often an organization—shapes outcomes. Using the competition between legal, medical, and familial institutions in infant intensive care units as an example, this article elaborates a theory of institutional competition and therefore of the influence of law in organizations. I show that institutions, including legal institutions, gain influence by working through internal organizational processes. Thus, the impact of law on medical decisionmaking varies with whether legal actors have learned how to be present when decisions are to be made, make legal issues into organizational problems, introduce choice points that require action, and alter the possibility space of eligible solutions. Using variations among the major categories of laws that govern the practice of infant intensive care, the article also shows how organizational and institutional theories help explain why some laws have more impact than others.

### I. Introduction: Institutional Competition and the Varying Influence of Law

**S**ociolegal scholars have long acknowledged that the influence of law varies from one setting to another and that other normative systems also shape human action. Beginning with the work of Macaulay (1963) and Selznick (1969) and continuing through the recent overview by Edelman and Suchman (1997), sociolegal scholars have also investigated the impact of law in organizations, where participants face a multitude of normative

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pressures arising from overlapping institutional jurisdictions. To clarify when the law will be especially influential and when rival normative systems will instead have more impact, we now need to look closely at how the law and other institutions interact in organizational contexts.

This article uses the competition between legal, medical, and familial institutions in neonatal intensive care units (NICUs)<sup>1</sup> to elaborate a theory of institutional competition and the varying influence of law in organizational settings. To do this, I draw on two strands of organizational sociology, institutional theory and behavioral decision theory. Institutionalists have argued that institutionalized practices—including procedures, routines, or policies associated with the law—are adopted largely for symbolic reasons and should not be expected to have substantial effects on what actually occurs in organizations. According to institutionalists, organizational participants adopt institutionalized practices in order to send messages to particular audiences. Generally they will try to send those signals without substantially altering the character of existing organizational processes. But if organizations have multiple audiences, a critic might object, the adoption of a policy or practice that sends a favorable message to one audience may simultaneously send an offensive message to another. Institutions (and the portions of an organization's environment that would support them) should therefore be conceived as competing for the chance to influence the organization.

How then is such an institutional competition resolved? In the example examined here, when do laws have a substantial effect on what goes on in neonatal intensive care units and when do institutionalized practices arising from family life or the medical profession instead have more influence? Because such institutional competitions are often resolved inside organizations, we must look to a second strand of organization theory, focusing on organizational decisionmaking, for answers. I show that institutions have their influence by working through internal organizational processes. Only when the routines, ceremonies, or practices of familial or legal institutions are insinuated into the machinery of NICU decisionmaking can they have any substantial effect. Thus for a law to shape the actions of NICU doctors or nurses, legal actors must learn how to make legal issues into organizational problems, introduce choice points that require action, and alter the possibility space of eligible solutions by mandating

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<sup>1</sup> Neonatal intensive care units are also called infant intensive care units, critical care nurseries, or newborn intensive care units. A newborn is a "neonate" during its first 28 days. Neonatology, focusing on the treatment of critically ill newborns, evolved as a specialty during the 1960s. Social-scientific studies of NICUs include Anspach 1993; Frohock 1986; Guillemin & Holmstrom 1986; and Heimer & Staffen 1998. Mehren (1991) and Stinson & Stinson (1979) present parents' perspectives on NICU experiences, while Lyons (1985) gives a more journalistic account, and Harrison with Kositsky (1983) provides guidance for parents of premature or critically ill newborns.

consideration of some alternatives and prohibiting consideration of others.

Familial, medical, and legal institutions vary in the degree to which they shape the practice of infant intensive care. But we might also expect variability in influence within each of these three broad institutional spheres, and it is imperative to understand what features of legal rules make some laws more successful than others in shaping the behavior of organizational participants. I therefore review the major categories of laws that govern the NICU with an eye to explaining why some laws are especially influential.

The article is a frankly theoretical exercise. It employs the example of conflicting institutions in neonatal intensive care units to elaborate and illustrate a theory of institutional competition and the varying influence of law. The article opens with a fuller introduction to the theoretical puzzle that motivates it. The institutionalist argument that policies are adopted and institutionalized in a bid for legitimacy runs into difficulty when organizations are faced with multiple institutions and multiple audiences. Policies that would signal legitimacy to the state might not improve an organization's relations with consumers, business partners, or potential employees. Further, institutional theory gives little guidance about how deeply institutions will penetrate into the workings of the organization. It neither tells us when organizations will adopt policies that signal compliance with laws nor when they will go beyond a superficial compliance by reworking organizational routines so that actions as well as policies are in compliance. Because these contests between institutions occur inside organizations, I turn to behavioral decision theory for assistance in understanding how the peculiar character of organizational decisionmaking might shape the outcome of institutional competitions.

After introducing the data that undergird my argument, I turn to institutional competitions in NICUs. I start by looking at the medical community, the state, and families, three crucial members of the NICU environment who compete for influence. Here I also explain why decisionmaking about critically ill infants, a site of intense competition and of substantial legal intervention, is a fruitful example for this particular theoretical enterprise. Next I show that institutional competitions can take several forms; they can be about policies and procedures or about individual decisions. In a close examination of control over decision elements, I show why medical institutions tend to fare better than legal or familial ones and how the disadvantages faced by legal and other state actors differ from those faced by patients' families.

With my argument about institutional competitions laid out, I return to the legal regulation of neonatal intensive care to show

that the explanatory scheme used to elucidate inter-institutional variations in influence also illuminates intra-institutional variations. Variations in the impact of different laws can be explained by looking at how deeply legal actors penetrate organizations and which decision elements they are able to control.

The final sections present conclusions about when institutional imperialism (such as the attempt by legal actors to reshape the NICU) works and when it fails. Questions about the variable influence of institutions such as the law can only be answered by considering both the process of decisionmaking and the need for legitimacy—that is, by attending to the interior of the organization as well as its boundaries. The article thus proposes a theory of variations in the penetration of laws into organizational settings, clarifying what it is about the laws themselves, the organizational settings they purport to govern, and the behavior of legal actors that might predict when laws would alter the character of interactions and when they would have only relatively superficial effects.

## II. The Theoretical Problem: Multiple Institutions and Impenetrable Organizations

Among the “new institutionalists” in sociology, institutions are conceived primarily as solutions to problems of legitimacy.<sup>2</sup> By their argument, much of what transpires in organizations occurs not because it increases efficiency or reduces transaction

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<sup>2</sup> The problem that institutions are purported to solve is identified somewhat differently by other camps. Among institutional theorists with a disciplinary tie to economics or political science—those labeled by Soltan, Haufler, and Uslaner (1998) as falling in the rational choice or extended rational choice camps and by Powell and DiMaggio (1991) as adherents of the positive theory of institutions—the focus is on the processes by which institutions are developed and adopted. Institutions are needed to overcome collective action problems, whether these be the more tractable problems of coordination or the deeper problems of cooperation that arise when conflicts of interest loom large. Though all may agree that they would be better off with a set of binding rules, people also recognize the incentive to cheat and the difficulty of establishing binding rules given the usual problems of shirking (or moral hazard) and free riding. A central question, then, is how institutions ever develop, and researchers look for congruence in interests, situations in which cheating is easily detected and overcome, and variations in the size and interests of actors that make some willing to invest in and monitor solutions (see, e.g., Heimer 1985b on the development of institutions to support insurance).

The existence of multiple institutions poses a problem for this group of institutionalists as well. For them, the existence of multiple institutions suggests that the core problem may not be the genesis or the paucity of institutions but the competition among multiple institutions for jurisdiction. Though the question of why anyone would cooperate rather than defect is a compelling *theoretical* problem, research and common experience suggest that cooperation may be less difficult to achieve than many social scientists once believed. But the existence of multiple institutions poses another set of difficulties for cooperative activity. If there are three possible rules about who has priority at an intersection, for instance, none of the rules is much use in coordinating activity. It may be just as damaging to the provision of a collective good to have three possible mechanisms to solve the free rider problem as to have none. If, as I argue, there are often too many solutions to problems of coordination and cooperation, the empirically important question may then be “How does any particular solution emerge as the dominant solution?” rather than

costs, but because it confers legitimacy and smooths interactions among organizations (Meyer & Rowan 1977; DiMaggio & Powell 1983, 1991). Formal structures and organizational routines are, in this view, more important for creating the appearance of rational decisionmaking than for actually facilitating rationality. In adopting an institutionalized practice, an organization signals its willingness to play by the rules endorsed by other actors in its environment. It claims membership in a world in which organizations doing roughly the same thing agree on a core set of rules that make the game “fair” and a style of interaction with regulators, suppliers, customers, and other publics. How deeply the adoption of any institutionalized policy shapes organizational activity is another matter.

In theoretical statements and empirical studies, institutionalists have directed attention to the state’s fundamental role in the process of institutionalization. DiMaggio and Powell identify the state and the professions as “the great rationalizers of the second half of the twentieth century” (1983:147) and discuss legal requirements as a key example of coercive isomorphism. In institutional analyses, law is treated as a master institution. Law has coercive qualities that other institutions lack. Particular laws and legal actors are important common elements in the environments of organizations in the same field. And it is in the legal arena that disputes about institutional precedence are adjudicated. Edelman and her colleagues (Edelman 1990, 1992; Edelman, Abraham, & Erlanger 1992; Edelman, Erlanger, & Lande 1993) provide an explicitly institutional analysis of the role of law in extending civil rights into the workplace. Legislation made attention to civil rights imperative and legitimate, but organizations were sometimes able to avoid more basic changes by formulating organizational policies in which “[t]he legal right to a nondiscriminatory workplace in effect becomes a ‘right’ to complaint resolution” (Edelman et al. 1993:529).

But the state is not the only source of pressure for institutionalization, and multiple institutions may compete for jurisdiction in a single setting. “Although not systematically pursued, it is strongly implied that there is not one but many institutional environments and that some would-be sources of rationalized myths may be in competition if not in conflict,” Scott observes

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“How are solutions devised?” The problem then isn’t so much free riding, as unwillingness to follow someone else’s convention or share jurisdiction.

At a more macro level, we know this phenomenon of institutional pluralism well in the guises of federalism, division of powers between the branches of government, church/state conflicts and their solution in establishment clauses or in Concordats between the Vatican and various states, and civil/military disputes. Though this problem has been theorized in a variety of empirical settings, less work has been done on the general phenomenon of how treaties are worked out between different institutional spheres. By this argument, constitutions are then institutional treaties and a core question is how such institutional treaties are worked out. I have pursued these questions at the level of individual organizations here, but one could extend the argument to other levels as well.

(1991:167). He then suggests that organizations can select among competing versions of institutionalized belief systems (p. 169). Powell (1991:197) similarly notes that “cross-cutting institutional pressures provide a space for entrepreneurs to construct an organization out of a diverse set of legitimated practices.” But though such institutional competition has been noted, less attention has been given to the potential of institutional competition to undermine rather than buttress the legitimacy of organizations. And sometimes institutions that might be expected to shape outcomes or increase the legitimacy of an organization in fact have very little effect and are not even invoked for symbolic purposes.<sup>3</sup>

That organizations might adopt institutionalized practices for symbolic rather than instrumental purposes was an important discovery, but it tells us little about how organizations tailor signals to various audiences without encumbering themselves with unnecessary and counterproductive policies. Decoupling provides a partial answer, but with too much decoupling not only will the right hand not know what the left is doing, but the right and left feet may be tripping over each other.

The existence of competing institutions thus poses a series of puzzles for institutionalists. Is legitimacy undermined and interaction across organizational boundaries hindered by ambiguity about which institution governs organizational activities? For instance, if a NICU too enthusiastically brings its practice into line with new regulations, does this signal to potential employees that the NICU is unlikely to respect professional autonomy? Does it

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<sup>3</sup> Although less relevant for sociolegal audiences, two other challenges to institutional theory are posed by institutional competition. First, the existence of competing or conflicting institutions surely undermines the facticity or “taken for granted” quality that is seen as a defining property of institutions. (On the facticity of institutions, see, e.g., Berger & Luckmann 1967; Zucker 1983; Jepperson 1991; Powell 1991; Scott 1991.) In effect, as Jepperson (1991) asserts, there are degrees of institutionalization. When several institutions might govern and legitimate organizational activities, no one institution can be taken for granted.

Second, if we accept Jepperson’s suggestion that “one enacts institutions; one takes action by departing from them, not by participating in them” (p. 149), then decreases in the degree of institutionalization associated with the existence of multiple institutions increase the likelihood of true purposive “action” rather than mere “enactment” of scripts. Others have hinted at these possibilities (see, e.g., DiMaggio 1991 on art museums). But the whole problem remains undertheorized. Acknowledging the existence of purposive action runs counter to the thrust of the field (see, e.g., the early statement in Meyer & Rowan 1977), although DiMaggio (1988, 1991) does argue for examining how agency and interests operate in tandem with institutional processes. While it is certainly true that “individuals do not choose freely among institutions, customs, social norms, or legal procedures” (DiMaggio & Powell 1991:10), neither do they passively accept that one custom or law rather than another should govern their activity.

Still, Jepperson’s (1991) formulation seems too extreme. Yes, action is usually required to depart from an institution (though departures can also be accidental), but action is hardly precluded by participation in an institution. Creative “enactments” of institutions are key forms of action and are fundamental examples of the “polysemy of meaning” that Sewell (1992) suggests permit change in social worlds strongly shaped by social structures.

signal to parents that NICU staff will be more concerned with legality than morality? And how is a contest among institutions resolved? What actually happens when a new regulation requires physicians to change the way they practice, for instance by consulting patients and families more fully about medical decisions? How does the interaction between intra-organizational processes and extra-organizational forces result in the triumph of one set of institutionalized practices and the subjection or demise of another? Are NICU routines less likely to be reworked to take account of new laws than new policies of the American Academy of Pediatrics?

The institutionalist argument challenges assumptions that organizations act “rationally” and that the adoption of institutionalized practices leads in any linear fashion to the modification of core organizational processes. A second attack on assumptions about the rationality of organizational processes comes from those behavioral decision theorists (working in the tradition of Herbert A. Simon and James G. March) who stress the almost random character of decisionmaking (Cohen, March, & Olsen 1972; March & Olsen 1976; March 1994). What decision gets made, they argue, depends on who participates in decisionmaking, which problems seem particularly salient when a decision is being made, what solutions are being championed by participants, and what occasion has brought people together to make a decision. But participants may have other things to attend to, problems can be displaced by still more pressing matters, solutions can be attractive for reasons other than their fit with particular problems, and decision points may arrive at inopportune moments. We should not be surprised, then, that organizational decision processes rarely seems “rational.”

This second account of the nonrational behavior of organizations also has its shortcomings. In particular, it offers little guidance about what makes one solution more compelling than another or how an issue comes to be regarded as a problem in the first place.<sup>4</sup> Why, for instance, was patient and family consent for medical treatment identified as a “problem” when physicians had long treated patients without fully informing them or seeking their consent? And what made the signing of consent forms seem like a good solution? Where did that particular solution originate and who championed it? One wonders whether organizational decisionmaking might look less random, though perhaps no more rational, if behavioral decision theorists were more concerned with questions about legitimacy—how individuals become legitimate organizational participants, how solutions get

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<sup>4</sup> Although no one has answered these questions in a general way, empirical work provides answers for specific sites. See, for example, Kingdon (1984) on the construction of agendas in Congress.

classified as legitimate fixes, or how problems come to be defined as within an organization's purview.

I argue that the stories told by the new institutionalists and behavioral decision theorists are both incomplete. Institutionalists provide elegant explanations for why similar processes or positions are found in a variety of organizations, but tell us little about why some potential institutions succeed and proliferate while others die. Behavioral decision theorists give compelling accounts of the partial independence of participants, problems, solutions, and choice opportunities, and the consequent contingency of organizational decisionmaking, but are less informative about where the elements of these streams come from and what makes particular problems or solutions sufficiently compelling or particular participants sufficiently influential that they are likely to shape decisions. I contend that institutionalists and behavioral decision theorists can each do much to answer the questions raised by the other's framework. Here I suggest what an institutional theory informed by a more sophisticated understanding of internal organizational processes might look like and what role the law plays both as a source of institutionalized practices and as an adjudicator when other institutions conflict.

To understand how and why some institutionalized practices are adopted while competing practices are spurned or ignored, I draw on examples from a study of neonatal intensive care, a setting in which activity is influenced simultaneously by the state and legal system, the medical community, and the traditions of family life. As Friedland and Alford (1991) comment, "[t]he central institutions of contemporary Western societies . . . are simultaneously symbolic systems and material practices" (p. 249) and "institutional boundaries . . . should in principle be observable in patterns of material and symbolic practice" (p. 262).<sup>5</sup> Family life, the medical community, and the state are largely separate institutional spheres with distinctive activities carried out by regular participants following the interaction rules characteristic of that sphere. It is, however, easy to overstate the rigidity of boundaries between spheres. Families, the state, and the medical community

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<sup>5</sup> Social scientists distinguish between what I here call "institutional spheres" (e.g., family life, religion, the state), "institutions" (macro-level complexes of beliefs, ceremonies, and practices such as fee-for-service medicine, peer review, or adversarial legalism), and "institutionalized practices" (particular practices that are so widespread and so intertwined with other practices that they are taken for granted and function essentially as scripts). The attention of the "new institutionalists" has been focused mainly on "institutionalization"—the process by which a practice or structure is diffused, adopted by an increasing proportion of organizations, becomes a prerequisite for legitimacy, and comes to be taken for granted. In neonatal intensive care, one could for instance investigate the institutionalization of consent forms, interdisciplinary rounds, or discharge planners. According to the institutionalists, after most other NICUs had adopted the use of consent forms, regularly held interdisciplinary rounds, or had discharge planners on their staffs, an NICU not in compliance with these standard practices would seem suspect to patients' parents, potential employees, judges sitting on malpractice cases, or other members of its environment.



all are important members of the environment for organizations such as hospitals, and NICU activities and outcomes are shaped by norms and practices that are usually associated with each of these institutional spheres.

Here I show what factors make institutionalized practices derived from law, medicine, and the family more influential in some situations than others. The success of an institution depends on the interests and power of participants who might benefit by adopting its practices, routines, or rituals. In addition to shoring up organizational legitimacy, institutions provide cognitive, cultural, and power resources that are important in organizational decisionmaking. Conceiving institutions this way demonstrates how the new institutionalism and behavioral decision theory complement one another. This conception of institutions also elucidates the role of law by suggesting that legal institutions can only trump other institutions when the legal cards are played. For a variety of reasons participants may choose not to invoke the law.

Though in theory law takes precedence over medical and familial institutions, in fact medical institutions have often carried the day in disputes about medical care. Such disputes are played out primarily in *medical* settings such as hospitals, where the rules and timetables of medicine govern practical action. When disputes are moved to courtrooms, the influence of legal rules and timetables increases. A variety of mechanisms, some direct and others indirect, have increased the power of law. The state has become more sophisticated at insinuating itself into hospitals. When medical people *want* to use legal tools, the power of law increases through the agency of physicians and hospital administrators. But medical staff benefit from using only selected parts of the legal edifice. Physicians may sometimes use the rule of law against patients' parents, but they are not so eager to have law used to curtail medical discretion.<sup>6</sup> Before these arguments can be fleshed out, though, readers need an introduction to the world of neonatal intensive care.

### III. The Setting, Research Methods, and Evidence

Neonatal intensive care units (NICUs), tertiary centers serving a network of other hospitals, provide care for critically ill newborns. Any child born before 36 weeks of gestation is classified as premature, and many NICU babies are simply premature. Others need treatment for congenital anomalies or accidents of

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<sup>6</sup> These questions about when and how law shapes the actions of care providers and parents of NICU patients are similar to Black (1973) and Lempert's (1976) questions about the "mobilization of law." But while they are interested in when and how an issue becomes a legal case, I am more concerned with how other normative systems grow on a legal foundation and when people use that legal foundation as a source of legitimacy.

gestation or birth. Many infants stay in the NICU only a few days before being discharged or returned to the referring hospital (which is typically closer to the family residence), though some remain in NICUs for many months and an occasional infant celebrates its first birthday there. Though it is hard to generalize about the outcomes of NICU patients, between 1967 and 1982 neonatal mortality declined about 4% per year, with the decline almost entirely attributable to advances in neonatal intensive care (Paneth 1990:791).<sup>7</sup> The limits are continually being pressed, with ever smaller and younger babies receiving treatment in NICUs. The line between a late miscarriage and a premature birth has blurred.

State-of-the-art medical care requires orchestration of the activities of a bewildering array of staff members. Attending physicians, who are permanently attached to the NICU, typically alternate periods of being on and off service. When off service, they are occupied with such matters as running the follow-up clinic or doing research. Residents provide much of the day-to-day doctoring under the supervision of an attending physician or sometimes of a neonatology fellow (a pediatrician receiving additional training to become a neonatologist). NICU bedside nurses care for an average of 2–3 patients apiece, though the nurse-to-patient ratio varies from 2:1 for the very sickest babies (in some cases attended around the clock by another medical specialist as well) to 1:4 for those approaching discharge. NICUs also are served by social workers; unit clerks; phlebotomists; X-ray and ultrasound technicians; respiratory, speech, and physical therapists; developmental medical psychologists; nutritionists; discharge planners; chaplains; volunteers (who hold babies and stock carts); medical consultants (geneticists, cardiologists, neurosurgeons, gastroenterologists); quality assurance specialists; and the administrative and legal staff of the hospital.

The activity of parents is also carefully orchestrated. Parents receive information about who will be caring for their babies, who can visit and at what times, how to scrub and gown, which phones they can use, and even where they can converse with other parents. Even routine infant care is not routine in NICUs, and parents are told when and how they can feed, bathe, and dress their babies and, in the most critical cases, when they can touch them. Parents also participate in some of the discussions about their infant's treatment and, as the baby approaches discharge, they learn about any special care that may be required and are watched carefully by staff for evidence of reliability, commitment, and competence.

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<sup>7</sup> See also Hack & Fanaroff 1989; Hodgman 1990. By 1985, more than 80% of infants weighing 750–1000 grams could be expected to survive (Hodgman 1990:2657). Hodgman cautions that for the tiniest infants (birth weight below 750 grams) neonatology may simply prolong the process of dying.

Representatives of the state also are episodically, but typically indirectly, involved in NICU activities. Social workers are in contact with child welfare and public aid workers, some of whom occasionally come to the hospital for face-to-face meetings. Social workers and physicians occasionally appear in court and somewhat more often have phone discussions with court personnel. Although many legal issues are handled by the hospital risk manager (who manages the hospital's relation to insurers) or the hospital legal counsel rather than by medical staff, legal questions nevertheless form an important backdrop for NICU activities, as will become apparent below.

This article draws on research (reported more fully in Heimer & Staffen 1998) conducted in the NICUs of two teaching hospitals in metropolitan Illinois in the late 1980s and early 1990s. These NICUs differ somewhat in their areas of expertise and in the services they provide, but were selected primarily because they vary in client populations. One hospital is located in a central city and serves a large minority and indigent clientele, while the second is in a residential suburb and draws patients primarily from a white, middle-class population. At the central city NICU about 38% of the babies were either black or Hispanic, 59% of parents had health insurance (a rough indicator of social class), and 60% of parents were married. In contrast, at the suburban NICU about 11% of the babies were black or Hispanic, 82% of parents were insured, and 83% of parents were married.

Four main kinds of evidence were collected from these sites. About a year was spent doing fieldwork in each unit, including observing the daily routine of the two units and attending staff meetings and meetings between staff and parents. I also draw on notes from informal interviews and transcriptions of formal interviews with a variety of staff members, including physicians (residents, fellows, and neonatologists), nurses, discharge planners, physical therapists, and social workers. Information about parents and infants was gleaned from two sources: the medical records of a year's worth of admissions at each hospital (379 records at the city NICU, 566 at the suburban unit), and interviews with a sample of parents (44 parents of 28 surviving infants at the city NICU, 39 parents of 21 surviving infants at the suburban NICU). Especially important for this article, I also reviewed the laws that govern the practice of neonatal medicine and discussed legal questions with staff members (some legally trained) and parents in formal interviews as well as in the course of fieldwork.

#### IV. Competitions among Legal, Familial, and Medical Institutions

##### The Medical Community, Families, and the State as Members of the Environment

Although an NICU's environment is large and diverse, the goodwill of patients' families, governmental bodies, and the medical community, the three groups examined in this article, is essential to the functioning of NICUs.<sup>8</sup>

Hospitals and the individual units of which they are composed are deeply concerned with their reputations in the medical community. Perhaps most crucially, a hospital's capacity to recruit skilled workers depends on its standing in the medical community. To protect its reputation, a hospital and its subunits encourage participation of employees in professional associations; the pursuit of degrees, certificates, and other credentials; adherence to the standards of conduct promulgated by professional bodies; and adoption of protocols for handling the problems that fall into the professional group's domain. Evidence of being on the cutting edge is also important to legitimacy, and new research findings are a common topic of discussion. Because research findings are disseminated in journals, newsletters, and conference presentations, hospitals, like other organizations employing professionals, often subsidize conference attendance or require continuing education classes. The hierarchical arrangement of medical establishments further acknowledges the precedence of scientific authority in medical decisionmaking and supports the dominance of physicians in medical settings. The medical perspective is also supported by the process by which hospitals themselves are certified. JCAHO (Joint Commission on Accreditation of Healthcare Organizations) certification is part of a net of legitimacy. Medicaid and

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<sup>8</sup> In describing the tug-of-war between medicine, law, and families for control over decisions about tiny, fragile infants, one must not overstate the internal coherence of these parties. There is no single "state position" on such decisions. State laws vary somewhat and may not be entirely consistent with federal guidelines. Judges and lawyers, who play parts in the legal subdrama, take diverse positions. Though the modal position of the hospital and its employees may differ substantially from the modal position of the legal community, physicians also may find themselves pitted against nurses or hospital administrators and risk managers. Physicians, like parents, have varying religious beliefs and varying positions on patient autonomy. And finally, families have diverse views on what role the state and the medical profession should play in shaping the fate of their newborn. Some parents believe that physicians truly know best while others feel that life-and-death decisions about children should be reserved for parents. Some parents believe that the state has a legitimate interest in protecting life, but others believe the government should not intrude.

Readers should also remember that the representatives of these institutional spheres mostly do not meet in head-to-head contests. The dominance of medicine is more usually secured through timing and positioning—exercises of Lukes's (1974) second dimensional power—rather than by winning direct confrontations.

Medicare funds are available only to certified units and residency programs in uncertified units are unattractive to young MDs. Research opportunities in turn depend on having a residency program, and a hospital cannot hope to attract the best senior physicians without good research facilities.

Patients and their families also care about the reputation of a hospital and its medical staff. Those whose finances allow them to pick and choose among medical facilities will elect to receive medical care from physicians considered to be on the cutting edge. But patients and their families also care whether a hospital is reputed to be “family friendly.” Are family members made welcome when they visit or are they made to feel that they are in the way? Does the unit have an information packet to orient family members to the hospital and their new circumstances? Are routines in place for consulting families about key decisions, preparing them for discharge, or soliciting and taking account of information about religious convictions, views on life support, or the management of death?

In interviews and fieldwork (in NICUs and support groups), parents gave ample evidence of sensitivity to variations in NICU and staff responsiveness to families. Parents declared that they would never let particular nurses or physicians treat their child. After he suggested that she and her husband should “forget” their son, one mother decided not to allow that physician to continue treating her child. Parents strategized about which hospitals to use and which to avoid for subsequent treatment. One mother insisted that her daughter not be returned to one of the three hospitals where she had been treated because its routines for tracheostomy care were woefully inadequate. Parents noted that some hospitals had no facilities for nursing mothers. Some hospitals did a good job of keeping parents informed. The NICU nurses “called every time they did something to him and told me what was happening,” one parent observed approvingly. Other hospitals’ routines were less adequate, and parents who felt they received insufficient information were more likely to express dissatisfaction, distrust the staff, and consider a transfer. Some hospitals insulted parents by treating them as novices even late in their infant’s hospitalization. Other units recognized parents as members of the child’s healthcare team, with valuable knowledge gained from hours at the child’s side in the hospital or at home. One mother whose son was transferred from one NICU to another commented on this point: “Suddenly to be treated like an adult again, like a responsible person with opinions that might matter and with input and with, ‘Hey, this lady knows the kid better than anybody else.’”

Parents often attributed differences in “family friendliness” to the units themselves rather than describing them as differences among individuals. One mother told us about informing a resi-

dent that her daughter's IV setting was incorrect. Rather than checking the setting the resident quipped "What do you know?" The attending physician gave his subordinate the choice of apologizing or being removed from the case, and the mother's story was as much about a unit culture that didn't tolerate inappropriate behavior as an account of the resident's rude comment. The resident was transient, but the attending was a fixture of the unit, responsible for policy and for disciplining subordinates. When the shunt that drained fluid from her son's brain became infected, another mother used a substantial portion of her public aid check on cab fare to the hospital where the shunt had been installed rather than taking him to the local hospital she distrusted. Parents felt as much loyalty to hospitals as to individual practitioners. Different NICUs were perceived to have different cultures, patterns of recruitment and retention, and policies about how staff should treat patients and their families.

The state in its various manifestations is a key part of the environment for NICUs. States promulgate many of the ground rules, supply a substantial proportion of the funds, and help resolve disputes about infant intensive care. The interest of the state in what happens in NICUs is less constant and less spontaneous than that of the medical community or patient families, though. The courts take the initiative to bring criminal charges. Otherwise they become involved only when others bring disputes to them. Legislatures and other rulemaking bodies only episodically turn their attention to regulating physicians and ancillary medical occupations or spelling out restrictions on how NICUs can use state monies, and even this episodic attention may be a response to pressure from others. State employees responsible for child welfare typically do not initiate contact over allegations of maternal drug use or begin the process of declaring a child a ward of the state. Instead the first contact is made by NICU staff.

But if state agents intervene only infrequently in the NICU, NICU staff are acutely aware that it could be otherwise. They could receive closer scrutiny, the ground rules could be rewritten to be less favorable to medical practitioners, and state financial support for medicine could be decreased. To forestall such changes, NICUs try to ensure that state actors have a favorable impression of them. NICUs attempt to increase their legitimacy in the eyes of state actors by moving quickly to bring their practices into compliance with new laws, keeping records up to date and making them available to state agents as requested, signaling their willingness to comply with the rules by consulting state agents somewhat more frequently than absolutely necessary, inviting representatives of state bureaucracies to participate in seminars, and supporting staff participation on government commissions or professional panels devoted to drafting model laws.

### Influencing Procedures and Influencing Cases: What Form Do Institutional Competitions Take?

NICUs may be eager to maintain their legitimacy with these core members of their environment, but members of each group also believe it is their right to participate in NICU decisionmaking. Each group's claim has a long and distinguished legal history. Parents stake their claim on their right to family autonomy, privacy, and freedom of religion, and on their ultimate responsibility for the child. It is they who must bear the burden of raising a disabled child, balancing its needs against those of other family members. Physician claims are based on their traditional rights to make treatment decisions, on possession of arcane medical knowledge, and on experience treating other infants with similar problems. Other members of the medical community make similar claims. And the state, through legislatures, regulatory bodies, and courts, argues that its interest in the lives and health of its citizens takes precedence over parents' right to control their own children. As *parens patriae* it claims to be a disinterested protector of infant citizens. As the ultimate authority of the land, the state also plays an important role in settling disputes between the other parties.

With three groups claiming the right to decide, bitter disputes can arise, as the following account illustrates. Here hospital staff and Jehovah's Witness parents disagree sharply about the administration of blood to a critically ill newborn transferred to the suburban NICU.

"God has given *me* responsibility for this child's immortal soul," the young father gravely told the head of neonatology, as his mother- and father-in-law and several ministers from his church watched. During a day of tense but respectful meetings, the family called in numerous church members, some with religious authority, others with special expertise in medicine. Many hospital staff members attended as well—the attending physician, the resident, the social worker, sometimes a nurse or two, the head of neonatology, and a member of the hospital's legal team. The hospital attorney explained the legal situation and the procedures that allow an attending physician to take temporary custody of a child to administer medical treatments opposed by parents. The attending physician repeatedly explained the baby's condition, patiently discussing the proposed treatments (a blood transfusion and perhaps the use of ECMO to oxygenate the child's blood outside her body), clarifying why blood substitutes were not medically acceptable and stressing that unless the baby's condition improved dramatically a transfusion would be essential to save her life. With treatment the baby's prognosis was excellent. The parents repeatedly asked physicians not to administer blood products, and the physicians agreed to delay as long

as they could without jeopardizing the child's health. In the early evening, the attending neonatologist concluded that further delay was impossible, took legal custody of the child, and ordered a transfusion. The child later was placed on an ECMO machine. A few days later the now-healthy child was discharged to her happy parents.

NICU disputes take many forms and do not always have happy endings. Babies may die or survive with impairments; staff and family members may not behave honorably or sensibly during the crisis and may later be unable to resume cordial relations. The three main parties—the family, the state, and the medical team—may combine forces in different ways. Cases involving a family's refusal to consent to the administration of blood products are quite routine, and medical and legal actors typically side together against the family. State agents and hospital staff also are likely to work together in cases of parental drug abuse or neglect. In contrast, physicians and family members sometimes form a coalition when courts attempt to reverse decisions to withdraw or withhold treatment. And families sometimes seek the support of the state in their disputes with the NICU and its staff or in attempts to hold staff members accountable after the fact.

Although the most dramatic disputes concern decisions about treatment, custody, or withdrawal of life support in individuals cases, in fact rights to make or participate in decisions are contested at two different levels. They can be disputes about particular decisions or about procedures. I have argued, following the new institutionalists, that institutionalized practices are adopted to send messages to particular segments of an organization's environment. But although the adoption of a practice often has mainly ceremonial effects, institutions can and sometimes do have substantial effects on the day-to-day operations of an organization. Members of the environment presumably prefer actual influence to symbolic gestures.

Institutional competitions should then be conceived both as competitions for symbolic goods and as competitions for influence in organizational decisionmaking. Who wins will depend partly on whom the rules and routines favor. How might each group rewrite the rules to increase its influence? If parents had more influence over consent procedures, would they wish to be consulted at points other than those now enshrined in NICU routines? How have the rules about medical neglect by parents evolved to increase physician discretion? If legal actors participated in earlier stages of decisionmaking about withholding treatment, would the net effect of court oversight be different? As we will see, the influence of families, state actors, and members of the medical community on NICU policies and routines is far from equal.



### How Institutions Shape NICU Decisions

Two quite different stories can be told about the role of the medical community, law, families, and hospital routines in NICU decisionmaking. Following the neoinstitutionalists, one could argue that hospital and NICU concerns with legitimacy shape some aspects of hospital procedure. We might expect to find the creation of legally or professionally mandated positions and procedures with largely ceremonial purposes and a disjuncture between official procedures and actual practices.

If contemporary law encourages the formation of Infant Care Review Committees, for instance, such committees will indeed be created. But most decisions will be unaffected; we should expect only occasional ceremonial referrals to Infant Care Review Committees. Similarly we would expect more convergence in the adoption than in the use of treatment and procedure protocols (for example, for the management of respiratory problems with surfactant, for supplementation of the feedings of babies receiving breast milk, for discharge of premature infants). In bids for legitimacy, it is probably more important to have *adopted* the policies of the American Academy of Pediatrics or of the leading NICUs than to *follow* those policies scrupulously. (But if departure from policy leads to higher death rates or higher malpractice losses, members of the medical community will likely know the evidence.) And, if it is customary in American culture to respect the right of parents to make decisions about their children's medical care, we might expect that hospitals would have policies honoring that right. But hospitals' and families' notions of family rights might well diverge. Finally, in a society that respects religious freedom, we would not be surprised to find hospital policies providing for appropriate religious leaders to perform rituals for newborn or dying infants. But we might still expect variability in how deeply such policies influenced hospital practice. Staff members and parents might focus on different religious occasions and hospital respect for family religious practices might vary with the social class and financial clout of parents.

Drawing on Cohen et al.'s (1972) work comparing decision processes to garbage cans, one could tell a quite different story about the influence of medical, legal, and familial institutions in decisionmaking about critically ill newborns. What decisions are made, these behavioral decision theorists contend, depends on the mix of elements in the garbage can. What happens is influenced by which possible participants are present, what problems they are concerned about, what solutions have been identified as plausible or interesting, and what occasions have been defined as choice opportunities. What gets dumped into any garbage can depends on the label attached to that can, and some cans may

get emptied more frequently than others. The garbage-can image is intended to suggest that decision processes follow a temporal more than a consequentialist logic. Although the label is not intended to be pejorative, a comparison with a pantry rather than a garbage can might better convey the partly purposeful, partly accidental accumulation of items only some of which will ever be used, without also suggesting that the items are trash.

Cohen et al. (1972) emphasize that because the combination of elements present in the garbage can at any point in time is unpredictable, outcomes will be essentially random. My point is somewhat different. Instead of emphasizing the unpredictability of the contents, I stress the patterns of access to the garbage can, and hence the greater likelihood of some outcomes compared with others. They also discuss access structure, for instance arguing that closed structures reduce the garbage-can character of decisionmaking. My argument is that access can be restricted *informally*, through timing, physical location, and institutional rules of appropriateness, as well as formally through hierarchy and bureaucratic arrangements. It is crucial to NICU decisionmaking that the garbage can is located in the hospital. As state actors have become aware that they had relatively little influence, they have learned to alter the mix of elements, often using the law as a tool. Briefly, insofar as parents and the state have become more adept at influencing NICU decisionmaking, it is because they have learned how to dump *their* problems, solutions, participants, and decisionmaking occasions into the hospital's can. The arguments of this section are summarized in Table 1.

The object here is to show how institutions are related to decision processes, and therefore why some members of the environment are more likely than others to shape what goes on in an organization. To show this we need to know, first, which institutional spheres are the likely candidates. Members of the medical community, families of NICU patients, and representatives of governmental bodies routinely claim that they should play a decisive role in NICU decisionmaking, both at the level of shaping policies and routines and influencing particular decisions. The columns of the table correspond to these three institutional spheres. The cells in each column show how influential practices associated with each sphere are and what happens when people refer to the claims or expertise associated with that institutional sphere to legitimate their attempt to influence a decision.

The rows of the table, following Cohen, March, and Olsen's garbage can model, represent the four main decision elements. If an institution is to shape decisions, participants from that institutional sphere must be present in the NICU to be involved in decisionmaking. Problems must be defined from that group's perspective. For instance, when familial institutions are influential, participants will be concerned both with whether an infant

**Table 1.** Institutional Spheres' Control over Elements in the NICU Garbage Can

Elements of the Garbage Can		Contending Institutional Spheres: Families, Medicine, and the State	
	Families	Medical & Other Hospital Staff	State Agents & Court Personnel
<b>Participants</b> —rights to participate, obligations of others to consult, likelihood of being present	Have right to participate though not always to decide; others have obligation to consult; variations between families in likelihood of being present, though families are less continuously present than hospital staff.	Depending on work assignment, have rights to participate, though right to decide may be limited by state and family rights; right to be consulted is established by medical hierarchy and legal liability under tort law; representative of hospital staff is continuously present.	Right to participate in decisions varies with state law about neglect and abuse of children and parental rights to make decisions about children; obligations to consult, state representatives are not always incorporated into routines, state representatives not likely to be present, and have only recently begun to make themselves accessible.
<b>Problems</b> —how things come to be defined as problems, are placed on organizational agenda	Families can identify problems (though typically they can do this only indirectly by having someone else write material into the medical record), and they can do this either inadvertently by <i>being</i> problems or on purpose by complaining about medical care or asking questions.	Hospital staff members are the participants who most actively identify problems, usually by commenting on and responding to the infant's medical condition, though sometimes by responding to "inappropriate" actions by parents.	State agents can identify problems and put them on the organizational agenda by responding to information supplied to them about particular infants, sometimes by third parties.
<b>Solutions</b> —what potential fixes are defined as plausible solutions, receiving active consideration as matches for particular problems or as solutions that remain in consideration until they can be matched with a problem	Families typically are naive about possible solutions, and must be educated about these by medical personnel. Exceptions include families whose religious beliefs connect them with alternative experts or whose families have relevant expertise either because of occupation or because of familial experience with particular medical conditions.	Medical personnel have more access than others to information about the range of possible solutions, and have preferences about which solutions to use.	State control typically limited to prohibiting some solutions, in effect keeping them from being considered as possible matches to problems.
<b>Choice Opportunities</b> —times when participants agree that a decision should be made; important questions are how and by whom choice points are identified, and who can add or defer choice opportunities	Family members can introduce choice points, for instance, by threatening to move a child to another institution. Most commonly, families accept the choice opportunities defined by physicians.	Choice opportunities typically arise because hospital staff members put them there, though this is mainly in response to the infant's medical condition. Hospital staff members are usually the only ones competent to identify medical choice points. (Insurers may also press for choice opportunities.)	State agents can alter choice points, for instance by insisting on procedural hurdles before choices are made. State regulations about custody hearings, consultation of parents, or review of decisions to withdraw life support supply the materials for routinization of decisionmaking and for incorporation of state and family members into medical decisionmaking.

has difficulty absorbing nutrition and whether a cumbersome feeding process consumes too much parental time. Solutions also can be proposed by families, medical staff, or representatives of the legal system. An institutional sphere has to be able to propose solutions and get them considered if it is to influence organizational decisionmaking. Finally, problems and potential solutions can be ignored and decisions can be deferred. Only when families or state agents can “move the agenda” would we say that familial or state institutions had much capacity to shape NICU decisions.

The rows of the table thus allow us to compare the capacities of families, members of the medical community, and state agents to participate frequently and effectively in decisionmaking, define problems, propose solutions, and insist that decisions be made at specific times. In the competition of institutions for influence in particular organizations, it is control over these elements that matters. And it is variation in such control that accounts for the variability in the influence of law, families, and medical personnel over NICU decisionmaking.

#### *Securing Real Participation Rights*

Decisions are much influenced by who the participants are, and familial, legal, and medical institutions strongly shape participation. Medical hierarchies give physicians participation rights that physical therapists lack; family arrangements make it likely that mothers will be present more often than fathers; and legal rules give standing to some but deny it to others.

As the party whose fate is most entwined with the child's, the family should be especially capable of assessing what is good for the child and especially interested in securing it. Technically expert physicians have less stake in a child's future and the state has no legal interest in a child's suffering or the quality of its life.<sup>9</sup> One might expect, then, that parents would be deeply involved in decisions about the treatment of hospitalized infants and that family institutions would dominate medical institutions and the law. From this perspective, the primary purpose of the law would be to protect the family, as the physician's client. Legal tools such as consent procedures would reinforce families' rights to participate and staff obligations to consult them. But participation is shaped both by participation rights and by being present at key moments, and family members are not always there when medical decisions have to be made.

Although it is easy to describe staff work schedules and so to predict when particular physicians, nurses, or therapists will be

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<sup>9</sup> Of course interested third parties sometimes force the state to take a political interest in the right to life, the quality of life, and the suffering of dying or disabled people.

present, it is much harder to describe the visitation patterns of parents. Because hospital rules about visitation spell out what is permitted rather than what is required, they are little help in understanding the comings and goings of parents. Parent visitation is patterned, though, and evidence from medical records shows that the frequency of parent visits varies with gender, age, marital status, race and ethnicity, social class, and whether the other parent visits frequently (Heimer & Staffen 1998:69–75). But such information, even supplemented by a nurse's knowledge about when her patient's parents are likely to be there, has little effect on when and by whom decisions are made. By and large the onus is on parents to learn the schedules of medical staff rather than vice versa. Some parents reported being "there around the clock" or making a point of being in the NICU during rounds so they might participate in decisions about their child.

Because NICUs are doctors' turf, physicians and other medical staff have significant advantages as participants in decision-making. Long training and demonstrated skill allow physicians to claim a right to make medical decisions. Because physicians do not themselves bear the financial and personal costs (as families, insurers, and the state do), they see themselves and the medical community as disinterested decisionmakers guided mainly by altruism and expertise. In the view of the medical community, the state's main task is to devise mechanisms to limit inappropriate interference with experts' right to make medical decisions. Medical staff also can claim that they are indispensable. In a pinch, decisions can be (and are) made without input from parents or representatives of the state but not without the contribution of medical staff.

The right of the state to participate in NICU decisionmaking can be defended on several grounds. Although both medical personnel and parents argue that the state should support *their* right to make decisions about NICU patients, others argue that the state should instead worry about physician incompetence or neglect and conflicts of interest between infants and parents. This view that the state's obligation is to protect powerless newborns rather than professional prerogatives or family sanctity is exemplified in the "Baby Doe" cases in which courts sometimes ordered treatment over the objections of parents and the families' physicians. But because state representatives are unlikely to be present in the NICU, in practice their right to intervene depends on being notified that a decision is imminent. Other participants have not always recognized an obligation to consult state agents. In order for the state to play an expanded role, then, regular consultation of state agents had to be built into NICU routines so they would be present or at least accessible at appropriate times.

Who participates in NICU decisionmaking about critically ill infants thus depends not just on who has a *right* to participate,

but also on who *must* be consulted and who is *on the grounds* at the time a decision is made. The three groups who are the main candidates for participation, medical and ancillary personnel, family members, and representative of the state, vary in the solidity of their participation rights, in the obligations of others to consult them, and in the likelihood that they will be present at relevant times.

Much institutional development is focused on rights to participate and obligations to consult. Parents have clear legal rights to make many decisions about their children. In many situations others are required to seek parental consent before doing things to or with children. Similarly the state's right to intervene in cases of abuse or neglect is clearly established in the law. But such laws are insensitive to the realities of organizational decisionmaking. Institutional development aimed at increasing the participation of outsiders is more likely to succeed if the focus is expanded beyond simple rights to participate. For those who are only briefly or intermittently interested in NICU decisions, fuller participation has depended more on learning how to be present at the right time than on having a right to participate. If families were more influential in shaping NICU institutions, NICU brochures might routinely include information about when and by whom medical decisions were made, how parents could participate in rounds, and when and where key personnel could be found. Consent procedures, the main routines that govern family participation, do a better job of meeting the needs of medical staff than of families (a point discussed more fully below). As parents and legal actors have learned, and as medical staff already knew, a right to participate is only meaningful if it translates into a capacity to put things into the organizational garbage can.

### *Identifying Problems*

In an NICU, many of the problems are put there by nature, though some ("iatrogenic" problems) result from previous medical interventions. Medical staff have an advantage in putting problems into the NICU garbage can because their word that some condition is a problem is authoritative. A parent might dismiss a baby's yellow-tinged skin as a minor matter but if medical staff label the jaundice a problem, the NICU staff will monitor levels of bilirubin in the blood and expose the baby to "bili lights."

Definitions of problems are largely shaped by medical institutions such as rounds and medical records. In NICUs people identify problems by writing comments into medical records, recording information on charts, or orally expressing concern to a physician, nurse, or social worker. But only some categories of people are authorized to write on charts or in records; others are

limited to oral methods of highlighting problems. Sometimes talking to a social worker or physician will lead to a notation in the medical record. Though hospital staff have several direct methods for identifying problems, families tend to be restricted to indirect methods and staff members often resist their attempts to define problems. In one case discussed above, the resident resisted the mother's attempt to define her daughter's IV setting as a problem. Another couple had their son transferred to another NICU when staff members refused to accept their view that their son's apnea and bradycardia<sup>10</sup> were "problems." Hospital staff are gatekeepers. No garbage comes into the can but through them.

Not all problems are medical ones, of course. Families can *be* problems. If parents fail to visit, come to the NICU drunk, do not learn to provide the special care a child needs, repeatedly oppose or obstruct treatment, or otherwise fail to live up to staff expectations, they are themselves labeled as problems and put onto the organizational agenda (Heimer & Staffen 1995). Further, as the baby nears discharge, household resources (for example, availability of a telephone) become concerns for the NICU staff. But even in these cases, family problems become NICU problems mainly because staff members identify them as such.

Despite their theoretical right to intervene, state agents are rarely present to place items on the NICU agenda. Laws mandating reporting of maternal drug use or medical neglect of handicapped infants were intended to define these issues as NICU problems. But the creation of such legal mechanisms is usually insufficient. Only when some specified actor is given the task of applying the law will issues that the state wants defined as problems get defined as such by the NICU. When neonatologists and social workers are held responsible for mandated reporting on drug-exposed infants, drug abuse is more likely to get defined as an organizational problem. For the same reason, posting a notice urging readers to call a hotline will be less effective than requiring Infant Care Review Committees to review controversial NICU cases.

Where an interested party has the capacity to define legal problems as NICU problems, the law more fully shapes NICU activities. The practice of neonatal intensive care has been more shaped by tort law than by other branches of law because hospital legal counsel and malpractice insurers repeatedly and forcefully remind physicians of their vulnerability to malpractice suits should they fail to conform to the "standard of care." By insisting that the standard of care be defined and that medical records be carefully kept, these front-line legal workers transform ill-defined

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<sup>10</sup> Apnea is a cessation of breathing for longer than 20 seconds. Bradycardia is a slowing of the heart rate that often occurs just after the onset of apnea. Both are common in premature infants.

standards and poor documentation into problems and add to the problem stream a host of subsidiary practical issues about records and standards. The definition of “problem” has expanded. The problem is no longer simply that competent practitioners should know the best medical practice. The NICU now must also ensure that the best practice is followed and that the content of that practice is formally documented.

### *Proposing Solutions*

Solutions have no necessary one-to-one correspondence with problems. The pairing of solutions and problems differs slightly from one unit to another. Standard practices (for example, for feeding babies, administering drugs and therapies, using surgical vs. pharmacological treatments) vary somewhat from one unit to another, but usually are embedded in the protocols and routines of NICUs and legitimated by the recommendations of professional bodies. Medical personnel are not all equally credible supporters of solutions, though. NICU nurses complain bitterly that physicians do not take nursing views seriously despite nurses’ sustained contact with patients (Anspach 1993) and that nurses are required to accept physician authority even when they believe physicians are wrong.

The larger divide lies between medical and lay people, though. When the problems are medical ones, people without certified medical expertise are at a disadvantage. Because most solutions lie outside their experience, staff argue, parents are unable to make the comparisons required for sensible decisionmaking. Even when they know that solutions are medically legitimate in other hospitals, parents typically will be unable to persuade NICU personnel of the appropriateness of their proposed matches between solutions and medical problems. “They would not listen to any of our suggestions at all,” one mother reported angrily. But parents may have compensating advantages. Pediatricians often ask if the child “looks sick,” understanding that parents may have superior baseline data about how the child ordinarily looks and behaves. In the NICU, parents who have been especially attentive in tracking in their child may be able to tell what is working and what is not. Parents were occasionally able to suggest modifications to physical therapy routines because they knew better how to interest and motivate their child. Because of religious beliefs or ideological predispositions, parents (like the Jehovah’s Witnesses discussed above) also may gather information about nontraditional medical interventions. When a problem is genetically based, parents may be able to draw on the experience of relatives. Families were more able to shape routines for managing peripheral problems such as those at the interface between medical and religious occasions (infant baptism, rituals



surrounding death). But even here the influence of the medical community is strong. Solutions proposed by families or clergy can be declared medically irresponsible.

If parents' influence remains small on peripheral matters, we should not be surprised that the stream of more purely medical solutions is shaped almost exclusively by the medical community. Understanding this, families sometimes added solutions to the agenda by bringing other medical practitioners into the discussion. One couple reported pressing physicians to consider other options: "We had to dig and like, you know, 'Is there anything else, is there anything else?'" For them the effort paid off handsomely—while physicians at one NICU had planned three surgical procedures, physicians at another concluded that only two were required.

The state has played a large role in financing medical care for the indigent, but a smaller role in choosing among solutions. The state's role usually has been limited to prohibiting some medical solutions from being placed on the agenda. Though most physicians and families might not choose active euthanasia anyway, this option is excluded because of its illegality. The state's role, then, consists chiefly in facilitating some solutions by financing them and prohibiting others by making them illegal. But within the space of possible and legal solutions, the state has little role in proposing specific solutions.<sup>11</sup> The state plays a larger role in proposing solutions to nonmedical problems, though here, too, it works partly by forbidding some solutions. For instance, when questions are raised about whether parents are neglecting their child (for example, by not learning to care for it or not visiting), state agents decide whether to take custody and place the child in a foster home or shelter. Such decisions are not really NICU decisions, though they are solutions to NICU problems.

Potential solutions are kept alive and retained as part of a repertoire by being incorporated (institutionalized) in a menu of possibilities in a protocol, routine, or standard operating procedure. Thus only continuing participants who can shape the long-run development of protocols and standard operating procedures can produce routines for matching problems to solutions. Neither the law nor parents are very adept at developing protocols for NICUs.

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<sup>11</sup> Other funding agencies such as insurance companies and HMOs are more likely to insist that particular solutions be considered. For instance, insurers may insist that an infant be transferred to a less expensive hospital or that families apply for public aid before they will agree to pay for home nursing care. One child's discharge was delayed by six months while the insurer fought with government agencies over who would cover which expenses.

*Establishing Choice Opportunities*

Decisions are made when problems and solutions are attached to one another at choice opportunities. Though they often are described by medical personnel as arising “naturally” from changes in the infant’s medical condition, in fact such medical occasions must be identified by staff and socially constructed as choice points. The arrival of a choice opportunity typically is announced when hospital staff members inform others that a medical crisis is occurring or is imminent, that an infant will soon be ready for discharge, or that some condition in the hospital (such as a shortage of bed spaces) necessitates action. Staff claims that only they have the requisite medical skills and administrative information to define choice points are also ideological moves to protect professional autonomy. Though medical problems play a substantial role in defining choice points, choice points often can be accelerated or delayed. Attempts to get a baby home for the holidays, for instance, offer clear evidence that medically defined choice opportunities are not carved in stone. Other players can intervene to define or redefine choice points. The courts often have introduced additional choice opportunities.

The state (or, often, the states) has mainly acted to postpone and review medical decisions. In effect, the state transforms initial medical decisions into penultimate decisions to be ratified by court review. But while medical decisionmaking is finely tuned to the timetable of medical crises, legal decisionmaking is not. In other fields, the courts insist on provisions to ensure that court decisions are not moot. Such arrangements are more difficult to envision in medical care. Some authors have proposed that infants should be treated pending court review, but withdrawal of care is conceived differently by families, the state, and medical personnel than is a decision not to initiate care. Alternatively, courts can adjust to medical timetables. To accommodate medical timetables, courts now sometimes convene on weekends or in the middle of the night (a practice sufficiently common to merit appearance in Klass’s 1990 novel), meet in hospital conference rooms rather than courtrooms, and supply hotline numbers for medical use. Acknowledging their limited capacity to adjust to medical timetables, courts also have clarified guidelines for autonomous decisionmaking by medical personnel and families.

Explaining impediments to parent participation in medical decisionmaking, one physician commented, “It’s real hard to bring [parents] up to speed.” The disadvantages of not being “up to speed,” which families and courts share, are particularly apparent when choice opportunities are announced in late-night phone calls and other emergency situations. Long explanations do not fit easily into the timetable of emergency medicine. But in

principle, both groups can add new choice points. Although they may not analyze their actions this way, dissatisfied parents are adding new choice points when they consult the hospital ombudsman, ask for a second opinion, or threaten to transfer their child. A few sophisticated families learn that the work of constructing choice opportunities is likely to begin during regularly scheduled encounters such as morning rounds. To anticipate and prepare for choice opportunities, they may then attend morning rounds or schedule regular meetings with physicians.

Although families and the state have some capacity to manipulate choice points, medical staff retain most of the control. The streams of items in the garbage can are not independent, and manipulation of choice points is far easier for those who are continuously present and have the technical expertise to identify problems and solutions in an authoritative manner. If meetings with families were as regular and as thoroughly institutionalized as staff discussions, families would understand how choice opportunities were socially constructed and would be able to introduce choice points of their own. When hospital staff have regular contact with state agents, as occurs during discussions about Medicaid eligibility or declaring a child a ward of the state, state agents enjoy an increased capacity to introduce additional choice points.

*Insiders, Repeat-Player Outsiders, and Consummate Novices*

Unless they shape patterns of participation, the process by which problems are put on the agenda, the way solutions are proposed, and the social construction of decision points, newly adopted institutionalized practices will create symbolic rather than instrumental change. How difficult it is to intervene deep in the core of an organization depends on the rigidity of borders, though, and the boundaries between an organization and different parts of its environment are far from uniform. Some boundaries are relatively impenetrable, others more porous. Some parts of the environment are composed of stable elements; others are characterized by rapid turnover. Some parts of the environment have routines for accumulating experience and transmitting information; others do not.

The medical community is an enduring element of an NICU's environment, simultaneously part of the organization and its environment. Medical professional associations are adept at influencing NICU routines and keeping medical staff informed. The boundaries between various state actors and NICUs are far more rigid, but some boundary-spanning mechanisms have developed over time. Because state and medical actors both tend to be repeat players, information from past experience can shape future actions and medical caregivers and state agents can

guide the actions of their colleagues. Even if they have learned by bitter experience that influencing medical decisions requires more than insisting on state hegemony, state actors at least have sufficient staying power gradually to mold some definitions of problems, solutions, and choice opportunities. They have learned how to be present when decisions are imminent or to stall decisions until they can arrive. The state is fragmented, though, and we should not overstate its capacity to collect and disseminate information. Information diffuses erratically; the experiences of one agency may not enlighten others.

If medical personnel and state agents are appropriately characterized as repeat players, with all of the advantages that Galanter (1974) would suggest that brings, families are almost always consummate novices, using unfamiliar decision tools on unfamiliar medical problems. Few families accumulate sufficient experience to guide their own future actions. Because they tend to function as relatively isolated family units, parents only occasionally read about the NICU experiences of other families (Stinson & Stinson 1979; Mehren 1991; Harrison with Kositsky 1983) or draw on information accumulated by support groups or religious bodies. The influence of the family sphere has therefore mostly been symbolic. Individual families may be able to influence decisions about their own child, but such interventions typically have not led to the institutionalization of family-friendly policies. Further, the isolation of families from one another makes it difficult for them to pose any substantial threat to the legitimacy of a hospital or NICU. A family can refuse consent, but physicians may treat their child anyway. Their agony will usually be a private misery that creates only a temporary and quite local problem for the NICU. Not surprisingly, then, familial institutions seem to be faring least well in the institutional competition between medicine, law, and the family.

## **V. Variations among Laws: Medicine in the Shadow of the Law or Law in the Shadow of Medicine?**

Legal institutions are specifically intended to make some acts legitimate and others illegitimate. Before informed consent legislation, the consent of the patient was routinely assumed, regardless of whether it had been explicitly solicited and received. Now the signing of a consent form legitimates physician treatment decisions, though the procedure may not in fact transfer much discretion to families. For some participants, one of the main reasons to adopt, elaborate, or incorporate a legally based practice is to gain the legitimacy it confers. Those interested in shoring up legitimacy will be especially eager to formulate rules and procedures that dovetail with the law. Because law is so strongly associated with legitimacy, the neoinstitutionalists' position suggests,

legally based institutionalized practices should have a built-in advantage in competitions with other institutions.

But people and organizations have other objectives as well (and in any case a hospital's legitimacy comes more from low mortality rates than from obeying the law). When families sue physicians, perhaps charging that they were not adequately informed, they are making an instrumental use of the very legal forms that physicians used for the symbolic purpose of legitimating medical decisions. Institutionalized practices adopted for one purpose by one party (for example, physicians) may then be used for a quite different purpose by another (for example, parents). The authoritativeness of law can be as useful for instrumental as for symbolic purposes.

Some of the variability in the influence of legal institutions arises because legal rules are inadequate guides for medical decisionmaking. They may be socially sufficient but technically insufficient (Heimer 1985a). Laws may spell out who has decisionmaking rights, but fail to take account of the timetable of medical decisions or the organizational structure of the hospital. Sometimes laws are technically insufficient because they target the wrong things—handicapped babies rather than premature ones, for instance. In other cases the law is not detailed or flexible enough to provide answers to complex medical and ethical dilemmas.

Focusing particularly on the laws of Illinois, where this research was conducted, I examine the variable influence of laws on NICU activity. Although in theory in American society law trumps other institutions, in fact some laws have substantial and others only minor effects. Such variability is crucial to our understanding of the success or failure of institutionalization, and I suggest that we can explain the variable success of law by looking at how law is articulated with intra-organizational decision processes. Institutional imperialism—here the imperialism of law—works best when imperialists learn enough about the natives to know what is to be decided, when it will be decided, what the contending solutions are, and how to secure their own right to participate.

This discussion is intended to correct assessments of the role of law in medicine. Researchers and journalists writing about whether changes in law have altered the practice of neonatology often focus on the Baby Doe Regulations (discussed below). In fact, the legal environment shaping the practice of neonatology is richer than this. The practice of neonatology is shaped by civil law (for example, medical malpractice cases), criminal law (for example, state laws prohibiting homicide and the abuse and neglect of children, and requiring the reporting of abuse and neglect), regulatory law (for example, state laws governing professional practice and mandating informed consent), and fiscal law

(for example, federal law denying funds to states without programs to prevent medical neglect of handicapped infants).<sup>12</sup> In addition to spelling out what the relevant laws are, I show that the different categories of laws pose different problems of monitoring and enforcement and so have quite disparate effects on hospital decisionmaking. For instance, some laws are designed to be implemented primarily by insiders such as physicians, while others require the intervention of outsiders. Laws that require the participation of people who are only episodically present in the NICU are less likely to influence NICU decisions than laws that depend only on the activities of regular participants. This is particularly so if those regular participants see particular laws as reasonable solutions to recurring problems. The arguments of this section are summarized in Table 2.

### Civil Law—Medical Staff Define Legal Issues as Problems

Ordinary civil law shapes the practice of medicine largely through the threat of medical malpractice suits. Under the law of torts, medical personnel and organizations are accountable for harms they cause to others and insurers sell expensive policies to cover losses from malpractice suits brought against physicians, other healthcare providers, and hospitals. Lieberman (1981: 69–81) notes that the sources of liability for health professionals parallel those for manufacturers, with substandard performance of medical tasks corresponding to defects in construction, inappropriate choice of a course of treatment corresponding to errors in design, and the information given to patients and their families in soliciting consent corresponding to the warnings on product labels and leaflets. The standards to which physicians are held vary with the source of liability. For performance of medical tasks, the standard is negligence. For the choice of treatment, it is the “standard of care” in the national medical community.<sup>13</sup>

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<sup>12</sup> Though I organize my discussion around these broad categories, reality is not so neat. For instance, although statutes mandating reporting of child abuse or neglect are properly classified as criminal law, they are intertwined with regulatory law. Professionals who fail to report suspected abuse or neglect are punishable by state boards that regulate professional licensure.

<sup>13</sup> The courts have sometimes questioned the appropriateness of medical standards. In a few exceptional cases (e.g., *Helling v. Carey* 1974), they have concluded that the standard was inadequate and found physicians at fault even when they provided care that met the current standard. In one important case, Gail Kalmowitz, who became blind from the oxygen therapy she received as a premature infant in 1952, sued even though she had received standard care. Many premature infants were blinded during the 1940s and 1950s, but not until 1956 did physicians understand that oxygen therapy was the problem. (Silverman 1980 argues that physicians could have arrived at the answer sooner had they been more careful scientists.) Kalmowitz had persuaded the jury, but accepted a settlement just before the verdict was announced (O’Connell 1979). Questions about the appropriateness of standards are particularly difficult in cutting-edge fields, such as neonatology, where standards are evolving.

**Table 2. Laws Governing Medical Practice in NICUs: Categories, Examples, Mechanisms, and Effects**

Types of Law	Examples	Mechanisms and Agents	Effect on Medical Practice
I. Civil law—tort law	Malpractice suits against physicians, other healthcare providers, and hospitals	Insurance companies, then the Joint Commission on Accreditation of Healthcare Organizations and other certification bodies; protocols and rules about standard of care; quality assurance monitors and reviews; incident reports; hospital risk managers and legal counsel	Apparent large effect on practice of medicine, though for the most part this effect is consistent with what medical personnel would do anyway, so the relevant behaviors are overdetermined
II. Criminal law—protects patients from harm	Murder and manslaughter laws; laws against abuse or neglect of children	Criminal trials for manslaughter or murder (in theory); custody hearings for negligent or abusive parents (application of criminal law here often triggered by regulatory law mandating reports on women using illegal drugs during pregnancy or on newborns with withdrawal symptoms or positive toxicity screens)	Medium effect—more effect from custody hearings (whose effect is to free hospitals from the strictures of parental consent), less from threats of trials for manslaughter
III. Regulatory law—governing the practice of medicine	Certification of health professionals and restrictions on who may practice; laws requiring consent for medical treatment regulation of prescription drugs; definitions of death (e.g. in organ transplant laws then extended to rules about when life-support may be withdrawn); certificate-of-need rules; regulations requiring reports on drug-affected infants	Consent procedures in hospitals and coordination with state officials when consent is not given by families; rules about DNR orders; inspections; record keeping; review committees (much overlap with mechanisms and agents of civil law)	Large effect overall—larger effect from general regulation of medical practice, but smaller effect from consent procedures (which are widely used but do not always empower parents)
IV. Fiscal law—regulations about the expenditure of state and federal monies	Baby Doe Regulations (prohibiting discrimination against handicapped infants) and Child Abuse Amendments (prohibiting medical neglect of handicapped infants)	Hotlines; withdrawal of funds; Infant Care Review Committees and ethics committees	Small effect—considerable new bureaucracy introduced in some instances, but relatively little effect on outcomes

For information leading to consent, Lieberman argues, there is no clear standard.

In medical malpractice suits, the fundamental question is whether the health professional could have prevented or limited harm.<sup>14</sup> In their chapter on perinatal brain injury and neurological impairment, Pegalis and Wachsman (1992) explain when a physician will be liable:

Failure to anticipate, prepare, monitor and/or apply appropriate skills or techniques in caring for the fetus and newborn may be judged a “departure” from the standard of care. If the “departure” causes injury and/or deprives the child of a substantial opportunity to avoid injury, then liability will exist. Under such circumstances, the injury is deemed “preventable.” (P. 499)

In infant intensive care, causal relationships are difficult to establish, with ambiguity both about whether substandard medical care caused or failed to limit harm and whether that substandard care was provided by NICU staff or other healthcare professionals (for example, in prenatal care or delivery). But, as Pegalis and Wachsman note, “Absolute precision is not the legal test” (p. 501). Instead, cause must be established only on a “more likely than not” basis (pp. 387, 501), and “[l]iability would arise if the obstetrical or neonatal care were substandard in the context of some foreseeable harm to the fetus/newborn” (p. 386).

The emphasis on “foreseeable harm” and “standard of care” suggest where we should expect to find the biggest effects of tort law. But these effects are not automatic. Civil law works through intermediate mechanisms and agents with considerable capacity to magnify or diminish the causal impact. Tort law is effective because intermediate actors translate the law into organizational routines and see that such routines are followed. For instance, medical malpractice insurers have a stake in helping medical practitioners and hospitals avoid law suits, and innumerable inspections, certifications, reviews, and rules flow from a hospital’s decision to self-insure or to purchase insurance. Just as the decision to get a home mortgage leads to entrapment in a net of rules about title insurance, fire insurance, escrow accounts, and late payment penalties, so decisions about malpractice insurance are coupled with JCAHO (Joint Commission on Accreditation of Healthcare Organizations) inspections, certification of professionals, continuing education programs, development of medica-

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<sup>14</sup> Two studies of perinatal malpractice claims (hardly a random sample of neonatal patients) suggest that often harm could have been prevented. Reviewing 25 malpractice cases, Nocon and Coolman (1987:89) concluded, “Fifty-six percent of professionals failed to recognize a high-risk pregnancy or fetal distress. Of those who did, 44% failed to treat properly.” Cornblath and Clark (1984:298, 300), reviewing 250 claims involving neonatal brain damage, concluded that in 31% of the cases harm was preventable, in 42% it was not preventable, and in the remaining 27% it was impossible to attribute responsibility for the outcome.



tion and procedure protocols (the core of a “standard of care”), rules about “incident” reports, routines for gowning and scrubbing, and the creation of positions for risk managers and legal counsel.

The successful penetration of civil law has come about, then, partly because hospitals and physicians wish to protect themselves from the financial and reputational losses of malpractice suits and partly because diligent insurers have devised ways to influence the daily routines of NICUs. It is not court personnel who put civil law into the NICU garbage can. Such work is done by insurers and risk managers, who further delegate the monitoring of day-to-day activities to people like the quality assurance specialists who compile mortality and morbidity statistics, investigate incident reports, and episodically present their findings to staff. Because reviews, checklists, protocols, and reports have been shaped with an eye to liability, in effect tort law is incorporated into the discussion of most problems and potential solutions. A substantial proportion of the management staff reports directly or indirectly at one time or another to someone who represents insurers’ interests.<sup>15</sup> Because the responsibility for putting tort law on the agenda has been delegated to regular participants and incorporated into NICU routines, insurers need not be physically present to ensure that NICU decisionmaking is sensitive to civil law.

Though medical personnel may resent the extra chores, risk managers and insurers are usually perceived as partners who offer sound advice about how to practice legally defensible medicine. Physicians and nurses may complain about the drudgery of documenting their work, but they typically believe that keeping records is good medical practice that decreases both malpractice and malpractice suits. Because the threat of malpractice suits is defined by staff as a problem, the institutionalized practices of law that they envision as a solution to this problem are mostly not adopted as an empty ceremonial gesture to outsiders. However it is sometimes hard to untangle symbolic and instrumental purposes, particularly when there is ambiguity about the medical efficacy of protocols. Ordering extra tests or sending babies home with unnecessary monitors may improve medical care only marginally, but it sends a strong message about risk avoidance. Adherence to the JCAHO rule requiring parents and social workers to wear gowns rather than street clothes is an even more ambiguous case. Staff may not believe the rule decreases infection rates. But because it does little damage beyond increasing the hospital laundry bill, NICUs continue to enforce the rule rather than fighting with JCAHO whose goodwill they value.

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<sup>15</sup> I regularly attended “management meetings” in one of the two NICUs, and was therefore privy to many discussions about risk management.

The effect of civil law seems quite large when described this way, but civil law is only one of several causal forces at work here. For instance, professional associations pressed for some inspections, certifications, and protocols before hospitals perceived malpractice claims as a significant threat. The object here is not so much to untangle legal from medical pressures (although that can be done to a limited degree) but to show that it is hospital personnel who translate legal pressures into NICU routines. Such translations do not always occur and when they do not, the effect of law is much more muted.

### **Criminal Law—Medical Staff Adopt Legal Tools as Solutions**

The criminal law also shapes NICU medical practice. Ordinary citizens cannot ordinarily legally cause the death of another person, and neither can physicians or other healthcare providers. Laws prohibiting murder and manslaughter are invoked to prevent physicians from withdrawing life support from infants. Though no physician has yet been tried for causing an infant's death by withholding or stopping treatment, nevertheless physicians and hospital lawyers are acutely aware that such legal action is possible.<sup>16</sup> Parents also could be prosecuted for first- or second-degree murder or manslaughter for withholding medical treatment from their child, although legal action against parents is extremely rare.<sup>17</sup>

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<sup>16</sup> Fost states: "Never in the history of this country, as far as I have been able to determine, has any doctor ever been found liable for deliberately withholding or withdrawing any life-sustaining treatment from any patient for any reason" (1989:330); similar statements can be found in Weir (1984:101) and the Cook County State's Attorney's Task Force on the Foregoing of Life-Sustaining Treatment (1990:30). But see Lieberman's (1981:89) comments on misinformation about the law and physician anxiety about prosecution, and Goldman, Stratton, and Brown (1989) and Gostin (1989) on physician ignorance of the law. The few "close calls" (Weir 1984:101; Lyon 1985) no doubt fuel physician fears.

Lantos, Miles, and Cassel (1989) argue that prosecution is especially unlikely in states such as Illinois where the mechanisms needed to translate decisions about withdrawal of life-support into legal actions against physicians (or parents) are absent. Such mechanisms seem unlikely to be enacted in Illinois. Instead, the Report of the Cook County State's Attorney's Task Force on the Foregoing of Life-Sustaining Treatment recommends: "Health care professionals and authorized surrogates should be immune from criminal liability for decisions to forego life-sustaining treatment that are made in good faith and in accordance with proper procedures" (1990:xxi-xxii). And subsequent Illinois legislation, the Health Care Surrogate Act (755 ILCS 40/1 et seq.), offers some protection.

<sup>17</sup> See Weir's (1984:91-115) discussion of relevant legal questions and cases. Weir stresses the "considerable uncertainty regarding the legal status of nontreatment decisions" (p. 92), which he regards as "legally risky" (p. 98) for both parents and physicians. Though most nontreatment decisions receive no legal scrutiny, some are reviewed by the courts and a few cases have moved further. For instance, the parents and physician of conjoined twins (born in 1981 in Danville, IL) were charged with conspiracy to commit murder; charges were later dismissed (pp. 95-97). An Illinois father, who removed his child from a respirator, was brought before a grand jury which decided that the father should not be prosecuted (Cook County State's Attorney's Task Force 1990:1; see also Goldman et al. 1989; Gostin 1989). A Michigan father, who unplugged his newborn's

State laws prohibiting child abuse and neglect are invoked more often. These laws govern the behavior of parents and hospital staff, though medically related cases are much more commonly brought against parents (especially mothers) than against health care providers or hospital social workers. Several components of the Illinois Abused and Neglected Children Reporting Act (325 ILCS 5/1–5/11.7) speak to the practice of neonatal medicine. First, the act defines neglect broadly, classifying as neglected any child from whom medical treatment is withheld, any child abandoned by parents or others responsible for the child, and any newborn whose blood or urine contains illegal drugs (325 ILCS 5/3). Second, the act specifying that social workers and health care workers (among others) are required to report abuse or neglect (325 ILCS 5/4). For staff other than physicians, failure to report is a misdemeanor (325 ILCS 5/4.02). Physicians who fail to report suspected abuse or neglect are to be referred a professional disciplinary board (325 ILCS 5/4.02).<sup>18</sup> Third, in recognizing that abuse can occur in settings other than the home, the act acknowledges that health care professionals might themselves neglect and abuse children (325 ILCS 5/2). The Medical Practice Act of 1987, the Illinois Nursing Act of 1987, and the Clinical Social Work and Social Work Practice Act also list causing a child to be an abused or neglected child (for example, by failing to give appropriate medical care) as grounds for disciplinary action (225 ILCS 60/22, 225 ILCS 65/25, and 225 ILCS 20/19, respectively). Finally, both the Illinois Abused and Neglected Child Reporting Act (325 ILCS 5/5) and the Juvenile Court Act of 1987 (705 ILCS 405/2–5) specify occasions when others may take custody of a child. For instance, the Abused and Neglected Child Reporting Act provides that “a physician treating a child may take or retain temporary protective custody of the child without the consent of the person responsible for the child’s welfare” in order to provide emergency medical treatment when there is insufficient time to get a court order.

To assess the impact of the criminal law on NICU practice, we need to look separately at the application of criminal law to parents and health care providers. Physicians and health care workers are quite unlikely to have criminal charges brought against them (Nelson & Cranford 1989; Fost 1989). But the charges, should they be made, are extremely serious. For parents, in contrast, legal action is somewhat more likely, though typically parents are charged with abuse or neglect, not manslaughter. The effect of law through its threat to parents is thus probably

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respirator, was tried for manslaughter but quickly acquitted by the jury (Frey 1995; New York Times 1995).

<sup>18</sup> On disciplinary actions against professionals who fail to report suspected abuse or neglect, see the Medical Practice Act of 1987, the Illinois Nursing Act of 1987, and the Clinical Social Work and Social Work Practice Act.

greater than the effect of law that works through threats to physicians and other health care providers. In part, this is because an interested party—the physician or social worker—brings parent misbehavior to the attention of the law, while parents do not side with the state against physicians.<sup>19</sup>

In practice, NICU staff make three uses of statutes on child abuse and neglect.<sup>20</sup> In each case, laws are invoked because legal tools are useful to hospital staff. First, when physicians and parents disagree, physicians can and do seek court permission or take temporary custody to administer treatments opposed by parents. Second, hospital staff consult state agents and assiduously follow state rules about reporting evidence of maternal drug use during pregnancy. In so doing, they avoid culpability and by invoking the power of the law they also gain some measure of control over “deviant” parents. Finally, NICUs cooperate with state agencies to transfer custody of infants whose parents have not met the training requirements or are for other reasons unwilling or unable to take their child home (Heimer & Staffen 1995). State agencies provide the stick with which hospital staff members can motivate recalcitrant parents to learn an infant’s care, visit more frequently, enroll in drug treatment programs, or find housing or employment. By cooperating with state agencies NICUs hope to avoid legal liability for releasing infants to abusive or neglectful parents. In addition, NICUs have a budgetary interest in cooperating with state agencies. Infants who languish in the NICU occupy bed spaces and consume resources for which the hospital is unlikely to be fully reimbursed.<sup>21</sup>

The penetration of law about child abuse and neglect has been facilitated by the eagerness of hospital personnel to employ legal tools. When hospital staff expect legal tools to be useful to them, they are more likely to comment on proposed legislation, write supportive letters to legislators, make facilities available for judges wishing to convene court at odd hours, and provide intermediaries (for example, social workers, risk managers, or legal departments) charged with learning the rules and knowing whom to contact. But this has led to a one-sided development of institutionalized practices. Some kinds of solutions make it into the NICU garbage can; others do not. The statutes articulate standards of behavior for both parents and health care providers and provide penalties for both groups of actors, although they probably do a better job of representing staff concerns about par-

<sup>19</sup> Physicians will almost always treat a hopelessly ill or medically compromised infant if that is what the parents wish. Parents do not need the law’s help to get physicians to *treat* infants (Anspach 1993; Guillemin & Holmstrom 1986).

<sup>20</sup> See Haralambie (1987:vol. 1, 584–98; vol. 2, 293–98) for a good discussion of statute and case law on medical neglect. Medical neglect is also discussed extensively in literature on informed consent (see below).

<sup>21</sup> In nearly all such instances the infant’s bill is paid by Medicaid, though Medicaid often does not fully reimburse the hospital. See Lyon (1985) on reimbursement practices.

ents than parent concerns about staff. But only selected portions of the statutes have been elaborated into flexible, easily employed routines. Staff members and legal actors have done the work of developing workable “solutions” (routines, protocols and other institutionalized practices) from those portions of the legislation that increase the discretion of medical staff or help staff elicit cooperation from others. But the tools that parents might use to shape the behavior of staff members have not been developed, although some of the necessary raw materials are present in the statutes. Routines that allow staff to report medical neglect by parents, for instance, are not matched by documented and flexible routines that make it easy for parents to report physician misbehavior. One-shotter parents have little capacity to develop tools during their child’s NICU stay, and staff members are unlikely to see such tools as useful solutions to important NICU problems.

When medical and state views on what is a problem coincide, hospital staff are inclined to view the state as a helpful partner rather than an opponent and state agents are happy to have hospital staff represent them in the NICU. In this symbiotic relationship, local knowledge and access are traded for legitimacy. State agents get insider staff members to help craft the routines that will make laws effective and hospital staff are allowed to harness the power of the state to legitimate routines that help them do their work. The adoption of institutionalized practices that dovetail with criminal law serves instrumental more than ceremonial purposes. But it may nevertheless be misleading to categorize this as legal penetration of the medical sphere. In the coalition between law and medicine neither medical nor legal institutions have lost power—only families have experienced a decrease in influence.

### **Regulatory Law—New Choice Opportunities for One-Shotter Parents**

The third category of law impinging on medical practice in NICUs is regulatory law, which governs how health care practitioners are to relate to patients and their families. The relevant regulatory law covers certification of health professionals and restrictions on who may practice medicine, the prescription and distribution of drugs, informed consent for medical treatment, and legal definitions of death.<sup>22</sup>

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<sup>22</sup> My inclusion of informed consent in the regulatory law category may be unconventional. Informed consent statutes are largely codifications of common law. These statutes serve to establish civil causes of action, so one might argue that informed consent should properly be classified as civil law. At the same time, though, some of the provisions of the statutes on informed consent, surrogate decisionmakers, and the regulation of medical professions immunize health professionals from prosecution and place some aspects of informed consent, as an element of professional conduct, under the jurisdiction of such regulatory bodies as the Illinois State Medical Disciplinary Board (see, e.g., the provisions of the Health Care Surrogate Act at 755 ILCS 40/30). Informed consent has

Regulatory law and medicine have long had a symbiotic relationship. The legal system has contributed much to the institutionalization of medicine (Starr 1982), though the most important of these contributions occurred long before the skirmishes that are the main subject of this article. In both contemporary and historical regulatory regimes, though, medical professionals have used legal forms to create an appearance of state scrutiny and rigorous oversight while simultaneously employing regulatory forms as solutions to other problems. As Starr (1982) demonstrates, rules about licensure simultaneously signaled legitimacy to the public and allowed allopaths to restrict the practice of homeopaths and osteopaths. Similarly, contemporary regulatory forms may increase legitimacy all the while protecting professional autonomy, as the evolution of informed consent statutes and routines illustrates.

Until the mid-1970s, the rules about informed consent were developed almost entirely by the judiciary. Though the consent requirement had long been part of the common-law tradition, more recent cases such as *Canterbury v. Spence* (1972) shifted the focus to *informed* consent. Coupled with the medical malpractice “crisis” of the mid-1970s, this shift encouraged medical professionals to press for statutory definition of informed consent.<sup>23</sup>

The 1979 Illinois Medical Patient Rights Act (410 ILCS 50) establishes a patient’s right “. . . to receive information concerning his or her condition and proposed treatment, to refuse any treatment to the extent permitted by law . . .” (410 ILCS 50/3). On many of the central issues of informed consent, the statute is silent. No comment is made on who is required to give information about medical procedures and for which ones, whether the standard of disclosure should be a professional or lay one, what exceptions there are to the duty to disclose information, or what elements (for example, the nature, benefits, or risks of the procedure, appropriate alternatives) must be part of the disclosure. Several other statutes elaborate related points.<sup>24</sup> The Health Care Surrogate Act (755 ILCS 40), enacted toward the end of the period during which this research was being done, now provides

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evolved in the direction of being “regulation” because medical personnel and the medical organizations with which they were associated wanted to avoid civil liability. But as it has evolved, such regulation has occurred inside hospitals and other medical organizations (that is, it is “indigenous regulation”) rather than being imposed by outside regulatory bodies. Similarly, when the Institute of Nuclear Power Operations—what Rees (1994) calls a private regulatory bureaucracy—took over some of the regulatory tasks of the Nuclear Regulatory Commission, we continued to call its inspections and reviews “regulation.” One could argue that these labels are consistent with the core of what we mean by “regulatory law.” The purposes are decided externally but because enforcement is administrative its location will depend on where administrative authority is located.

<sup>23</sup> Lieberman (1981) concludes that the medical malpractice crisis was more the product of insurer practices than of increased patient suits.

<sup>24</sup> See, e.g., the Right of Conscience Act, the Consent by Minors to Medical Procedures Act, and the Health Care Surrogate Act.

a statutory basis for the termination of life-sustaining treatments without judicial review, laying out who may make such decisions, what process should be followed, under what medical circumstances such decisions can be made, and protecting parents and physicians from charges of murder if they decide that withdrawal of life support is appropriate.

The doctrine of informed consent is an attempt to balance the competing rights of the patient, family, and physician in medical decisionmaking. Not everyone believes that those competing rights are adequately balanced in the new statutory definitions of informed consent and in informed consent routines. Meisel and Kabnick (1980:563) conclude that though on net balance they did not alter the rules much, informed consent statutes “will preclude the possibility of judicial liberalization of common-law rules in a manner that might favor patients” (the sentiment is shared by Faden & Beauchamp 1986:140). Informed consent statutes (and resulting routines) are more often “solutions” crafted by medical practitioners than by their patients. Attorneys for medical groups drafted some informed consent statutes and the consensus seems to be that most medical groups have taken a defensive stance on informed consent (Katz 1984; Meisel & Kabnick 1980; Schuck 1994). Further, medical groups may have hoped that, properly designed and implemented, informed consent routines could signal respect for patient rights without jeopardizing medical discretion. Meisel and Kabnick (1980:561) describe the AMA model statute as “an example of the unfortunate tendency of organized medicine to view informed consent as nothing more than a legal hurdle to be surmounted by a consent form, rather than a recognition of the fundamental human rights of bodily integrity and self-determination.” Ideally, informed consent procedures would institutionalize patient and family participation in decisionmaking by introducing a new choice point—a decision opportunity in which both camps had to be present. But the signing of consent forms seems instead to have been institutionalized as a ceremony decoupled from the “real” decisionmaking that goes on behind the scenes—a choice point in which no real choice is made. Hence, Anspach’s (1993) observation that physicians do not really seek consent, just assent for decisions they have already made. Stories of ceremonial uses of informed consent procedures abound (Faden & Beauchamp 1986; Heimer 1992; Katz 1984; Rothman 1991; Schuck 1994).

Informed consent routines can do more than protect medical discretion. They also can be employed to shore up the control of medical practitioners. Here regulatory law works in tandem with other laws. For instance, when parental consent is required for medical treatment, then parental refusal of medical treatment may constitute abuse or neglect and the hospital can petition a court for temporary custody of the child. Consent pro-

cedures thus become a link in the chain of actions by which hospitals use the law to wrest control from parents. Much attention is thus paid to documenting that parents have been fully consulted about orders to withdraw or withhold treatment. But institutional attention is not spread evenly over the whole consent process. Staff ensure that parents have duly signed the forms, but they are less meticulous in seeing that “dumb” questions have been asked and answered or that parental concerns about how a child might function at age ten have been addressed (Heimer 1992).

But not everyone agrees with this bleak assessment. Although Zussman would be the first to acknowledge that the formalities are sometimes substituted for the substance of informed consent, he argues that these rituals are enacted in a medical culture that now supports patients’ and families’ rights to participate in decisionmaking. He finds a “new willingness on the part of physicians to share information with patients” (Zussman 1992:85). The “culture of the ward” (enshrining medical autonomy) and the “culture of rights” coexist, he suggests, and both influence the practice of medicine in the adult intensive care units he studied. But in recent decades the balance between the two has shifted. Some telling statistics: in 1961, 88% of physicians (by their own report) did not level with patients about cancer diagnoses; by 1979, 98% of physicians reported that they did inform patients that they had cancer (Zussman 1992:85; Oken 1961; Novak et al. 1979).

Moreover, both participants in the rituals of informed consent have experienced these cultural changes. Although many families submissively sign informed consent forms, others regard the signing of forms as their opportunity to open a dialog. The culture of patienthood has changed at least as much of the culture of medical practice. Although they are in a minority, some parents cross out the words about the administration of blood products from blanket consent forms or annotate the form. The institutionalized practice of informed consent may typically be experienced as a ritual, and it may often be enacted in a way that protects physician discretion. In the hands of sophisticated participants, though, it need not be an empty ritual. When some parents are prepared to use the ritual for their own purposes and physicians have been culturally primed to respond to those moves, informed consent will at least some of the time be parents’ foot in the medical door.

### **Fiscal Law—Legal Actors Fail to Define Legal Issues as Problems**

Finally, what happens in NICUs is shaped by fiscal law—regulations about the expenditure of federal and state monies. The most notorious of these are the Baby Doe Regulations and the Child Abuse Amendments. All hospitals receive federal funds



through Medicare and Medicaid as well as other programs. As a result of rules passed in 1973, hospitals receiving any federal funds are prohibited from discriminating against the handicapped in any of their activities, whether or not these activities are themselves federally funded. The Baby Doe Regulations, initially brought to the attention of NICU staff members in a May 1982 notice from the Department of Health and Human Services, extended protections to “handicapped” infants. The Baby Doe Regulations were struck down by the courts. The federal government then attempted to use the lever of federal funding for state child abuse prevention programs, and the Child Abuse Amendments were adopted in 1984 and reauthorized in 1989.<sup>25</sup>

We have long known that there is considerable variability in whether laws are enforced and how legal sanctions are applied.

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<sup>25</sup> Though the details of the investigation and enforcement mechanisms are more relevant to my argument, a brief chronology may be useful as. The story is a convoluted one that entails actions by President Reagan, the Department of Health and Human Services (HHS), the Congress, and the courts. In May 1982, following instruction from President Reagan, HHS published a notice to health care providers (“Discriminating against Handicapped by Withholding Treatment or Nourishment”). Providers were advised that under sec. 504 of the 1973 Rehabilitation Act, hospitals receiving federal funds could not lawfully withhold medical or surgical treatment or nutrition from a disabled infant if an otherwise similar infant without the disability would have received treatment or nutrition. In March 1983 HHS published its Interim Final Rule, “Nondiscrimination on the Basis of Handicap,” requiring hospitals receiving federal monies to post notices describing federal protection of the handicapped against discrimination and giving a toll-free telephone number to report violations. This rule also provided for on-site investigations by HHS personnel. In April 1983, the Federal District Court for the District of Columbia invalidated the Interim Final Rule because HHS had violated procedural requirements about provisions for public comment. In January 1984, HHS published its Final Rule, “Nondiscrimination on the Basis of Handicap: Procedures and Guidelines Relating to Health Care for Handicapped Infants.” This was subsequently invalidated by a lower federal court, whose decision the Supreme Court upheld. The court argued that a hospital’s withholding treatment when no parental consent had been given for treatment did not violate the 1973 Rehabilitation Act; that the regulations were not based on any evidence of discrimination and were outside the authority of the Secretary of HHS; and that the Secretary could neither dispense with the 1973 Act’s focus on discrimination nor use federal resources to save the lives of handicapped infants without considering whether they had experienced any discrimination.

A second approach, ultimately successful, was to introduce legislation amending the Child Abuse Prevention and Treatment Act. The Child Abuse Amendments of 1984 were first introduced into Congress in 1982, signed into law by President Reagan in October 1984, and reauthorized by President Bush in October 1989. The statute required that states set up programs for monitoring and reporting medical neglect, making such programs a condition for receipt of federal funds supporting child protective services systems. In April 1985, HHS issued its Final Rule to implement the Child Abuse Amendments of 1984 (“Child Abuse and Neglect Prevention and Treatment Program”). Under this legislation, Infant Care Review Committees are encouraged but not mandated.

See Bopp & Nimz 1992; Gerry & Nimz 1987; Kopelman, Kopelman, & Irons 1992; Lyon 1985; Newman 1989; Shapiro & Barthel 1986; and Walman 1992 for discussions of these regulations and the common misperceptions about their applicability to NICU care. The appendix of Caplan, Blank, & Merrick 1992 provides a chronology of the events in the legal history of the 1984 Child Abuse Amendments (though the final event in the series is misdated). Lyon (1985) supplies useful detail about how key cases unfolded and what happened to families and infants subsequently. Lyon (1985) and Harrison (1986) also discuss the case of Brian West, whose medical problems resembled those of the original Baby Doe, and whose court-ordered surgeries left him in agony for several years before he died.

Passing legislation is only the first stage. Though these regulations were initially expected to have substantial effects, in practice their effect seems to have been quite small. For the most part, medical personnel have had little stake in conforming to the requirements of the Baby Doe Regulations and the Child Abuse Amendments. They have had little to gain by altering medical routines to treat infants whom they would not otherwise have treated, particularly when the legal sanctions—withdrawal of funds or prosecution for criminal acts—did not materialize. Though posted notices provided hotline numbers and though squads of investigators were available to descend on hospital units reported to be withholding care from a disabled infant, in fact few calls were made, even fewer full-blown investigations were carried out, and no evidence of discrimination or neglect was found (Lyon 1985:42).

Fiscal pressure is a blunt instrument here. For the Baby Doe Regulations, the federal government had to demonstrate a pattern of discrimination before funds could be withheld. For the Child Abuse Amendments, the funds that might be withheld are relatively modest and in any case go to the state rather than to any individual hospital. Further, the pressure is being applied to the wrong problem—most of the infants in NICUs are not “handicapped” but premature. Finally, because the strong predisposition of physicians and parents is to treat, the “problem” which the regulations purported to solve was not often a problem in the NICU. No one could sell the solution as a match for any existing problem.<sup>26</sup>

When cases did go to court, decisions were sometimes made too late—after an infant had expired or was so deteriorated that medical intervention was futile. The state’s failure here can be explained by ineptitude in arranging for state agents (or their surrogates) to be present to participate in decisions, inability to motivate NICU personnel to accept responsibility for the state agenda, inappropriate definition of problems, proposal of incomplete solutions that were insufficiently articulated with NICU routines, and use of a timetable of choice opportunities that could not accommodate medical emergencies.

One might argue that the Reagan administration was primarily looking for a symbolic victory in any case. As Lyon (1985) shows, little attention and even less money was given to older handicapped citizens or even to handicapped infants once their lives were saved. This view is of course consistent with an argument that institutionalization is primarily about signaling and legitimacy, though in this case it was the legitimacy of the government rather than of the regulated organizations that was being

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<sup>26</sup> Some elements of the legislation have affected hospital practices. For instance Infant Care Review Committees have been formed in many hospitals, though they may not work entirely as intended. See Fost (1992) for an assessment.

signaled. Not surprisingly, medical organizations had no deep and abiding interest in helping the government establish its legitimacy.

### **Institutional Imperialism and Legal Domination of Medicine**

In assessing the effect of law on the practice of neonatal medicine, one can define law and its effects narrowly or broadly. Many hospital regulations that are not themselves mandated by law have nevertheless been developed in response to law. For instance, although no law requires hospitals to secure JCAHO (Joint Commission on Accreditation of Healthcare Organizations) certification, certification is a prerequisite for receipt of Medicaid and Medicare funds. Further, insurers do require such certification, and hospitals and health practitioners carry malpractice insurance because of the possibility of law suits. Although the law casts a long shadow in medicine, we need to think carefully about how the influence of law varies from one area of medical practice to another. The shadow of the law may indeed be long, but long shadows need not be equally dark. Where legal influences seem most intense, the cause may well be that legal pressure coincides with pressure from professional bodies or other groups. These groups may in turn be influenced by the law. The effect of law is greatest, then, where legal institutions work in tandem with other institutions and least where legal and other institutions work at cross purposes, as when families or physicians resist judicial intrusion. The same mechanisms should explain variations in the effectiveness of other institutions.

I have used the variability in legal penetration of the NICU as a way to examine the mechanisms by which laws shape the day-to-day practice of medicine. The extension of legal domination into other spheres is a multistage process. The passage of legislation is an important step in the process, for legal domination cannot occur without enabling legislation. But laws can be either enforced or ignored. The mechanisms that make the penetration of law into the NICU possible vary with the kind of law, and with how skillfully those interested in enforcing or using a law adapt it to the medical setting. Generally speaking, in a medical setting legal tools are more effective in the hands of medical actors than in the hands of people less familiar with the materials upon which the law is being used. Lawyers and state agents may know the *tool* well, but one needs to know the *material* as well as the tool to be effective. The authors of the Baby Doe Regulations were criticized by the courts for their failure to provide evidence that discrimination was occurring (in *Bowen v. American Hospital Association* 1986). The regulations attempted to match a solution to a problem before convincing anyone that the problem was real. Federal government actors (in Health and Human Services)

had too little experience with NICUs to regulate them effectively.<sup>27</sup>

Over the years, legal influences on NICU activity have increased. But ironically, these increases in influence have arisen from the adaptation of legal processes to the medical setting. If legal institutions cannot initially dominate other institutions, they can increase their influence by moving out of courtrooms and agency offices and setting up camp in a variety of settings. Judges who work on doctors' clocks and in doctors' conference rooms will have more influence than judges who confine themselves to courtrooms.

This realization seems to have come to different parts of the state with different speed. Though custody hearings typically take place in courtrooms on regular workday schedules, attending physicians are legally empowered to take temporary custody of infants to provide emergency medical treatments opposed by parents. Such procedures have been thoroughly worked out partly because these problems arise routinely,<sup>28</sup> and partly because physicians are eager to use legal tools that make their job easier.

## **VI. Conclusion: Organizational Actors as Users of Institutional Tools**

Families, the state, and hospital staff members all claim the right to make decisions about infants in NICUs, and each tries to influence both individual decisions and decisionmaking procedures. An examination of the law governing NICU activities and a study of day-to-day activities in two NICUs suggests that the competition between legal, medical, and familial institutional spheres can be understood by bringing together the analytic frames of new institutionalists and behavioral decision theorists.

Concern over legitimacy does indeed force organizations to adopt practices that make them look reputable to key elements of their environments. But what makes an NICU appear legitimate to the state government that regulates NICU professionals or to the federal government that supplies some of its funds may

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<sup>27</sup> State actors were constrained by the intractability of the law to use a toothpick when a hammer was required. To enforce a right-to-life ideology on a delicate medical negotiation, particularly when state agents had no leverage in that negotiation, required them to use inappropriate tools. State agents were powerless because they wanted to do something that could not be done with their tools. Because familiarity with the setting would have persuaded them of the futility of the exercise, they had some incentive to cling to their ignorance.

<sup>28</sup> Some religious groups prohibit parents from consenting to medical treatment for their children and discipline parents who consent to treatments opposed by the group. Some parents seemed to welcome hospital policies to treat children over parental opposition. Such policies absolve them of responsibility for a difficult decision. Other parents vigorously resisted physicians' proposals to go ahead with medical treatment, sometimes threatening to take physicians to court.

be very different from what makes the same unit look legitimate to families who entrust their infants to the staff. And that may in turn be quite different from what makes an NICU seem reputable to the American Academy of Pediatrics. Adoption of institutions associated with the law, with the family, and with medicine then satisfies different constituencies, and we are left with a deep puzzle about how the claims of these three institutional spheres can be adjudicated in a manner that does not entirely delegitimize the NICU.

A partial answer comes from the institutionalist observation that ceremonial and instrumental functions can be decoupled. But to understand how that decoupling occurs, we must turn to behavioral decision theorists' observations about how decision elements are brought together in organizations. Briefly, the actors most frequently present to attend to the details of decisionmaking will have an advantage in knowing how to get problems onto the agenda, how to propose their solutions in a persuasive way, how to block the participation of outsiders, and how to insist that a choice point has arrived. All else equal, locals will have some advantage in influencing how decisions are *actually* made, while more distant participants will have to be satisfied with more ceremonial attention to their demands. Of course all else is not always equal, and adroit repeat players can become adept at influencing the core functions of an organization. Determined one-shotters, such as families, may be able to influence individual decisions but are less likely to be able to alter institutionalized practices—the routines, protocols, or scripts that shape decisionmaking.

Legal institutions are especially important in conferring legitimacy. But for law to have any substantial effect legal tools have to be used. Laws end up mainly being used for the purposes of the repeat players in hospital settings—physicians rather than parents or agents of the state. Laws that are less useful to hospital staff are less likely to be used and so have less effect. Put differently, the question is who can contribute to the streams of decision elements—whose garbage gets put into the can. An NICU garbage can is not like the city dump—all garbage is not equally likely to end up there. When a garbage can is located in a hospital, physicians are more likely than lawyers to be present to participate in decisions, and decisions are more likely to be made on medical timetables. Over the years, the state has adapted to the medical timetable, and legal actors are now more likely to be present to participate in medical decisions.

If, as Swidler (1986) suggests, culture should be thought of as a tool kit, institutions similarly might be conceived as toolboxes in an organizational toolshed. Such an image suggests less randomness than does Cohen et al.'s (1972) garbage can analogy. But as they and others have argued, universities (the example on

which they draw) are probably more anarchic than most organizations. A well-stocked toolshed contains a wide variety of tools, but most people will know how to use only a few of them. Some tools have only a few uses; others are versatile. Some tool users are clever; others are not. Especially clever tool users can craft a variety of objects, make numerous repairs, persuade others to try their favorite tools, find occasions to use tools they especially enjoy employing, and convince others that individual tools or whole new kits need to be added to the toolshed. And just as some tools languish and rust in real toolsheds, so neglected institutions become increasingly useless if new generations of organizational participants are not trained to use them or regard them as archaic.

The new institutionalists have observed that institutions are sometimes tied to professions and that professions vary in which institutions they support (DiMaggio 1991; DiMaggio & Powell 1983, 1991; Edelman et al. 1992). Professionals should then be as concerned with the fortunes of their professions as with the futures of the organizations in which they work. Actors should support institutions tied to their own professions to increase the legitimacy of particular professional practitioners within the organization as well as to increase the legitimacy of the organization itself. The nesting of legitimacy problems thus suggests which strategies to increase organizational legitimacy will be particularly popular with which groups of people. Strategies for increasing legitimacy will be contested *intraorganizationally*, with the ranking of various professions shaping outcomes. Internal outcomes will be as important as external ones. What makes a solution compelling, then, is its association with the institutional history and fate of a profession. Laws that are useful to high status professionals like physicians are more likely to be incorporated into NICU routines than laws that might be useful to lower status staff or to families. Only by looking at where problems and solutions come from—that is, by looking at their institutional affiliations—can we understand what makes them compelling. But only by looking at the microprocesses by which institutionally based problems and solutions are brought together in a particular setting can we understand how one institution gains ascendance over another.

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