

AN EXAMINATION OF DO NOT RESUSCITATE COMPLIANCE: HOSPITAL  
OWNERSHIP AND COST CONSIDERATIONS

by

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## ABSTRACT

PETRA GUTERMUTH PORTER. An examination of do not resuscitate compliance: hospital ownership and cost considerations (Under the direction of DR. ROSEMARIE TONG and DR. TERESA L. SCHEID)

My dissertation sheds light on unwanted treatment in the larger context of the Patient Self-Determination Act (PSDA). I focus specifically on the impact of Catholic hospitals on compliance with do not resuscitate (DNR) orders. Drawing from institutional approaches to organizational decision-making, I extend these approaches to end-of-life care. Two questions guide my research: does Catholic hospital ownership affect the likelihood of DNR noncompliance and does DNR noncompliance affect the total cost from the discharge, on average? To answer my questions, I used inpatient 2006 through 2009 discharge data for California hospital stays for DNR patients 65 years or older who suffered in-hospital cardiac arrest. My findings showed 28 percent of patients were resuscitated after cardiac arrest, despite a DNR order, with varying likelihood across hospital ownership. An unanticipated result was that Catholic hospitals were associated with a higher likelihood of DNR noncompliance that is similar to that of for-profit hospitals but opposite to that of non-Catholic religious hospitals. The findings also support the hypothesized relationship between DNR noncompliance and the total cost from the discharge, on average. The data demonstrated an association between race, gender, and age and DNR noncompliance. These findings suggest that the PSDA overestimates the universal acceptance of patient self-determination via DNR orders. I call for framing unwanted end-of-life care as a public health issue and, subsequently, for the inclusion of clear and precise directives for DNR orders in the PSDA.

## DEDICATION

To the memory of my mother Helga Gisela Gutermuth, my father Walter Wilhelm Gutermuth, and my son Jermaine Walter Porter who inspired me to do my best.

And to Bear, Sweetness, Milka, Babygirl, Emma, Tess, Noodles, and Bellicia my furry family, past and present, who in their special way, kept me sane.

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## LIST OF ABBREVIATIONS

AD	advance directive
AHA	American Hospital Association
AMA	American Medical Association
CHAUSA	Catholic Health Association of the United States
CHW	Catholic Health Care West
CPR	cardiopulmonary resuscitation
DNR	do not resuscitate
DPOA	Durable Power of Attorney
ERDS	Ethical and Religious Directives for Catholic Health Care Services
IOM	Institute of Medicine
PSDA	Patient Self-Determination Act
JCAHO	Joint Commission on Accreditation of Healthcare Organizations
SSM	Sisters of St. Mary

## CHAPTER 1: INTRODUCTION

“Unwanted treatment is American medicine’s dark continent. No one knows its extent, and few people want to talk about it” (Rauch, 2013, para. 3).

### 1.1 Summary

To facilitate the widespread adoption and use of advance health care directives; Congress passed the Patient Self-Determination Act (PSDA) of 1990 with the purpose to protect patient autonomy and self-determination (Larson & Eaton, 1997). The PSDA requires Medicare and Medicaid providers to provide written information to patients about their rights to accept or refuse medical or surgical treatment. It also outlines patients’ rights to formulate advance health care directives that document their wishes regarding medical care in the event that they are temporarily or permanently unable to speak for themselves. Hospitals are required to maintain written policy in regards to advance directives and, in general, hospitals have complied with the PSDA’s requirement to inform patients about their rights (Pope, 1999). For the PSDA to achieve its purpose health care organizations must not only inform patients about their right to have advance directives but also assure patients that they will not be recipients of unwanted life-prolonging treatment (Pope, 1999). Questions have been raised as to whether the PSDA meets this goal, especially in the arena of do not resuscitate (DNR) orders (Clarke, 2009; Pope, 1999, 2010, 2013). In advance health care planning, DNR orders are the standard legal document, which express patients’ refusal of cardiopulmonary resuscitation (CPR).

DNR orders do not require the patient to be irreversibly or terminally ill. Compliance with DNR orders remains problematic; case studies (Berlin, 2000, Kaufman, 2005, Pope, 2013) and narratives show that some patients are resuscitated in spite of a standing DNR order. Known probable sources of noncompliance are, for example, unawareness of the existence of patients' advance directives (Johnson, Baranowski-Birkmeier & O'Donnell, 1995) and conflicts about surrogates (Pope, 2013).

Like many other public policies, the PSDA was formulated in a climate of profound social disagreements, uncertainties, and interpretations of history (Beauchamp & Childress, 2001). The social disagreements in discussions about end-of-life care come from the tension of opposing forces often found between law and morality. Stone (1997) argues that any first year law student learns to recognize “law and morality are two different spheres” (p. 119). As an example of this plurality, Blix (2011) underscores that “which end of life care provisions should be included in the final version of the Affordable Care Act almost derailed the entire reform enterprise” (p. 67). Likewise, DNR violations are at the center of conflicting medical ethics such as patient autonomy versus beneficence. Beneficence is expressed when physicians cling to paternalistic structures—the doctor knows best—such as physicians’ desire to fix what they may deem a medical problem (Gawande, 2014). However, some speculate motivations for DNR violations that are more cynical, such as, for example, the lure of increased revenue (Gawande, 2014; Lown, 2007; Reich, 2014). Moreover, physicians adhere to various normative and professional logics, which themselves are attentive to the larger institutional rules, practices, and understandings (Reich, 2014). These normative pressures stem from broader cultural frameworks and value orientations, and the role of professions (see

Scheid & Suchman, 2001). Thus, DNR violations may reflect hospitals' larger value orientations including differing implication for the authority and autonomy of physicians working in hospitals (DiMaggio & Powell, 1983). According to DiMaggio and Powell (1983), structural determinants limit the range of choices that physicians perceive as rational or prudent.

Drawing from institutional approaches to organizational decision-making, I extend the construct of rational-myths (beliefs and values) to medical ethics (Meyer & Rowan, 1977). I argue that the PSDA embodies and promotes new rational-myths of institutionalized patient-self-determination to which hospitals respond in dissimilar ways (see Scheid & Suchman, 2001). Hospitals that want to remain unique and distinct could be quite heterogeneous in their implementation of the PSDA, which may lead to varying levels of DNR compliance. Narratives and testimonials, suggesting compliance with DNR orders may vary across hospital ownership, support this argument (Pope, 2010; Swartz, 2006). Of particular interest are Catholic hospitals. According to White (2000), Catholic hospitals have chosen theological, historical, legal, and mission-related distinctions from other hospital ownership types. While religion is regarded as a unique institutional influence on organizations (Fink, 2008; Friedland & Alford, 1991; Reich, 2014; Thornton, 2004), few quantitative studies have been published to advance this argument. Much uncertainty still exists about the relationship between religious hospital ownership and health care delivery (White, 2003); and that this is particularly the situation in Catholic hospitals.

A systematic review of the literature in Chapter 2 shows that we still understand DNR compliance poorly. For example, what is not yet clear is the impact of hospital

ownership on DNR violations, and how DNR violations relate to hospital costs. Noncompliance with DNR orders may involve cost considerations in addition to eliciting concerns about patient self-determination. According to Gawande (2014), the debate about when to forgo medical treatment, and who is to decide has gotten attention in recent years for reasons of expense (p. 153). Research links Medicare spending to the supply of services for those with chronic illnesses or for those in their last six months of life, accounting for a disproportionate amount of total expenditures (Zhang et al., 2009). DNR violations may lead to subsequent unwanted treatment, which may lead to higher Medicare and Medicaid expenditures at the end-of-life (Berenson et al., 2009; Hanchate, Kronman, Yinong Young-Xu, Ash, & Emanuel, 2009). My dissertation is an effort to fill this gap in the literature and systematically examine DNR compliance. It is the first quantitative analysis of noncompliance with DNR orders across hospital ownership—Catholic Church operated, religious non-Catholic, nonprofit non-religious, for-profit, and non-federal government.

My dissertation also examines DNR violations and the total cost of a hospital stay, on average. Scholars of aging issues have had a longstanding interest in decision-making at the end-of-life and prospective studies of costs (Buntin & Huskamp, 2002). Nevertheless, to the best of my knowledge, my dissertation is the first quantitative analysis of differences in total discharge costs, on average, between DNR compliant and DNR noncompliant discharges.

My dissertation also addresses patient characteristics and DNR noncompliance. Race, gender, and age are important additional considerations in the use and compliance with DNR orders. Although scholars suggest that how people die in hospitals is more a

function of hospitals structure than it is a function of diversity (Kaufman, 2005, p. 333), Seale (2010) suggests that cultural patterns associated with race or ethnicity can influence how desirable individuals see personal control of the dying process. Age is an important conditioning factor for both gender and race as women live longer, and minorities have much lower life expectancies, which has implications for DNR use and compliance.

In accordance with my general research objectives to examine the prevalence of DNR violations across hospital ownership and cost considerations, two specific questions guided this research: does hospital ownership affect the likelihood of DNR noncompliance and does noncompliance affect the total cost from the discharge, on average? The general research objective also included examining patient characteristics and DNR noncompliance. To meet the research objectives, I used inpatient discharge data from 2006 through 2009 California hospital stays for DNR patients 65 years or older who suffered in-hospital cardiac arrest.

My dissertation has five sections. The current chapter gives a brief summary; the remainder of this chapter presents the background. The background information shows why DNR remains to be a controversial issue and why DNR order violations may occur. First, I discuss health care ethics to show existing ethical conflicts about DNR orders. Second, I discuss the PSDA and the technical aspects of DNR orders and the PSDA's history to illuminate legalistic difficulties with DNR orders that potentially lead to compliance barriers. Third, I provide an overview of the changes in the U.S. health care delivery system over the last century. I focus on how the deprofessionalization of physicians affects patient autonomy and incentives for DNR noncompliance. The background section also illustrates the potential relationship between institutional

influences on DNR compliance. In addition, the background section gives context to cost considerations concerning DNR orders. Fourth, I describe differences and similarities between Catholic hospitals and hospitals with other types of ownership to show how structural differences, including treatment protocols, may affect DNR compliance. Last, I discuss economic considerations of DNR orders and how they are related to the commodification of health care. The section also provides a timetable with the historical co-evolution of end-of-life care, DNR orders, and CPR.

This chapter also specifies the research problem, describes its significance and presents an overview of the methodology used. The second chapter presents a comprehensive literature review and conceptual framework. The third chapter describes the research methodology. The fourth chapter presents the results. The fifth and final chapter presents a discussion of the results, ethical, theoretical, and policy implications of the results, limitations, and ideas for future research.

## 1.2. Health Care Ethics

“Twenty-five years ago patients were treated paternalistically. It was important to stand up and protest. Autonomy was a powerful and handy concept with which to do that.” (Murray, 1994, p. 33).

“So, you are saying that hospitals are putting DNRs in place for patients who haven’t authorized them, and hospitals are ignoring DNRs for patients who have authorized them? What do you think should be done to fix this?”  
(Madeline Conant, Midwest 19 March 2013)<sup>1</sup>

The development of increasingly sophisticated life-sustaining technologies changed the fundamental question of “what can we do?” to “what should we do?” When is forgoing medical treatment appropriate, and who is to decide is an ongoing debate in the health policy arena (Burns, Edwards, Johnson, Cassem, & Truog, 2003). Burns and

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<sup>1</sup> <http://newoldage.blogs.nytimes.com/2014/06/24/when-advance-directives-are-ignored/> Retrieved on 12/28/2014

colleagues underscore “few initials in medicine today evoke as much symbolism or controversy as ‘the do not resuscitate order’” (p. 1543). In this subsection, I position the controversy around DNR orders in the four moral principles in biomedical ethics—autonomy, nonmaleficence, beneficence, and justice (Beauchamp & Childress, 2001).

Hackworth (1991b) considers the principle of autonomy “the very underpinning of medical ethics in America” (p. 47). According to Beauchamp and Childress (2001), autonomy and decision-making are intimately connected. Not everyone agrees that autonomy is always a good thing. For example, Schneider (1998) argues that some patients, especially the elderly and the very sick, want neither to receive information about their condition nor to be required to make their treatment decisions (see Beauchamp & Childress, 2001). Beauchamp and Childress, prefer to think of “a principle of respect for autonomy with a correlative right to choose (not a mandatory duty to choose)” (p.61). In health care, the basic paradigm of autonomy is expressed consent. Resuscitation is the only medical procedure we initiate by presumed consent without the express consent of the patient (Christie, 2000). According to Beauchamp and Childress (2001):

“If consent is presumed on the basis of what we know about a particular person’s choices or values, it reduces to either implied or express consent. By contrast, if consent is presumed on the basis of a general theory of human goods or of the rational will, the moral situation is more problematic” (p. 66).

For example, after the introduction of cardiopulmonary resuscitation (CPR) in the 1960s, CPR routinely followed a patient’s cardiac arrest (Burns et al., 2003). Physicians believed in the benefit of CPR and feared that its omission constituted ‘passive euthanasia’ and would lead to civil or criminal prosecution” (Luce & White 2009).

That consent and refusal may change over time is another point of contention. Dresser questions the moral validity of advance directives and doubts that “the drafter of the advance directive and the patient later bound by it are the same ‘selves’” (as cited in Pope, 1999, p. 168). For example, physicians may believe that if they can get patients through a medical crisis, the patients will later be glad about that the DNR order was disregarded (Beauchamp & Childress, 2001). In addition, physicians, at times find DNR orders inapplicable in the ICU (Pope, 2013). According to Beauchamp and Childress (2001), not all patients are competent to give valid consent. Courts (not physicians) determine patient competence and incompetence; nevertheless, clinicians determine whether a patient lacks decision-making capacity and whether the patient has a Durable Power of Attorney (DPOA). If a patient is not competent to choose or refuse treatment, a hospital, a physician, or a family member may justifiably exercise the role of the decision-maker. A patient can appoint a DPOA without being irreversibly ill. Furthermore, if the DPOA does not perceive the patient as irreversible ill, the DPOA has the right to continue treatment, even if the patient has a living will, which may include a DNR order.

Nonmaleficence is an obligation not to inflict harm on others. Medical treatment can be a source of harm; therefore, it is a consideration in end-of-life treatment decisions. Beauchamp and Childress (2001) argue that guidelines for treatment and nontreatment decisions developed in a broad context of religion, philosophy, and legal discourse. Treatment and nontreatment decisions in end-of-life care involve—withholding versus withdrawing life-sustaining treatment, and acts of omission versus acts of commission. The withholding of treatment refers to the forgoing of life-sustaining treatment. DNR

orders are in the category of withholding of treatment. The withdrawing of treatment refers to the termination of life-sustaining treatment including the removal of artificial feeding and breathing mechanism. Legally, the withholding and withdrawing of treatment are acts of omission, which are distinct from acts of commission. The application of treatment that brings death is an act of commission. In acts of commission, the law is clear. For example, it is illegal in most states for a physician to act affirmatively to terminate a patient's life. The following excerpt from the court case *Vacco v. Quill* 521 793 (Supreme Court 1997) describes this distinction. The Court ruled, "...when a patient refuses life-sustaining medical treatment, he dies from an underlying fatal disease or pathology; but, if a patient ingests lethal medication prescribed by a physician, he is killed by that medication" (Standler, 2005, p. 77). The PSDA intended to give patients more control over end-of-life care decisions; it was arguably not the legislators' intention for patients to request acts of commission such as to allow the prescription of lethal medication.

Medical ethicists agree that confusing these distinctions may be a barrier to patient self-determination (Beauchamp & Childress, 2001) Beauchamp and Childress (2001) observe, "The venerable positions that these traditional distinctions occupy in professional codes, institutional policies, and writings in biomedical ethics provide no warrant whatever for retaining them" (p. 120). According to the colleagues, the distinction between acts of commission and acts of omission is vague and morally confusing. For example, clinicians, bioethicists, and legal scholar have "construed a physician's intentionally forgoing a medical technology as letting die, rather than killing, if and only if an underlying disease or injury causes death" (p. 142). The statement

implies that in the absence of an underlying disease or injury, some would construe a DNR order as killing.

Beauchamp and Childress (2001) believe that today DNR orders are accepted. They relate the acceptance to policies that regard DNR as the withholding and not the withdrawing of treatment. Nevertheless may still happen when “a rational person would choose death over life, regardless of his or her medical disability” (Hackworth, 1991b, p. 47). Here the decision whether we consider CPR as ordinary or extraordinary treatment may still loom. In decision-making whether to forgo treatment at the end of life, we often make distinctions between ordinary and extraordinary treatment. Arguably, we may not consider CPR exceptional treatment when the patient has no underlying terminal illness. Here, beneficence comes into the play. According to Beauchamp and Childress (2001), morality, in addition to respecting the autonomy of the patient and doing no harm, means to contribute to the patient’s welfare. Sometimes the benefits of forgoing life-prolonging treatment outweigh the harm. Physicians traditionally have controlled this calculation, thus, paternalism—the doctor knows best (see next page)—produces a conflict between beneficence and autonomy or resolves it. Whether respect for patient autonomy or professional beneficence should have primacy is a central problem in medical ethics.

Consider the following (Beauchamp & Childress, 2001):

“Sometimes beneficence is viewed as competing with the principle of respect for autonomy and sometimes beneficence is viewed as incorporating the patient’s autonomous choice (in the sense that the patient’s preferences help to determine what counts as a medical benefit)” (p. 176).

For physicians to understand the patients’ choices better, Rutecki (2003) suggests adding a value history to advance directives that “should include an explicit identification of both physician and patient/family values and inclusion of both sets of values in the

directive” (p. 15). In addition to weighing the benefits and harm of forgoing life-prolonging treatment, professional beneficence has also played a role in the development of conscience clauses. The state’s interest to preserve life directly piggybacks off health care providers’ duty to do everything possible to preserve life—the duty of beneficence. State interests influenced *Georgetown*, 331 F.2d 1000 (District of Columbia Circuit Court, 1964) where the judge ordered a blood transfusion against the religious beliefs of the patient (Standler, 2012). Subsequently, states began to implement provisions that allow health care providers to refuse advance directives to which they have a conscientious objection. This provision originated from the Church Amendments, 42 U.S.C. § 300a-7 (Pope, 2010), which became law shortly after *Roe v. Wade*, 410 113 (Supreme Court 1973) to protect religious institutions from enforcement to perform abortions and sterilizations. Conscience clauses also allow religiously owned hospitals to implement religious doctrine in their patient care while retaining a 501 (c) (3) tax-exempt status.

Most relevant to advance directives is active paternalism that prompts a physician to intervene when the patient prefers non-intervention. For example, physicians may use discretion when deciding whether to resuscitate a patient. Another equally important form of paternalism is passive paternalism that prompts a physician not to intervene and most clearly applies to cases of medical futility (Beauchamp & Childress, 2001). Medical futility, according to Beauchamp and Childress (2001) involves the prediction and evaluation of probable outcomes and is a gray area. For example, CPR “could transiently restore physiological function in some patients but often prolonged [the patients’] suffering until they finally died” (Luce & White, 2009, p. 5). Historically, from the time

of the Karen Ann Quinlan case in 1976 (In re Quinlan, 355 647, NJ: Supreme Court 1976) to the recent case of Brittany Maynard, who suffered from inoperable brain cancer, the courts realized that it is neither good medicine nor a legal requirement to sustain the life of irreversibly ill patients at all cost (Annas, 1989). When Annas speaks of cost, he reflects on the cost measured in suffering for the patient for whom there is no cure. Nevertheless, when we balance benefits and cost, not for the singular patient but the public at large, cost measured in suffering becomes cost measured in utility. For example, the use of expensive life-sustaining treatment and resuscitation techniques is in question regarding the quality of life-years gained (Scitovsky, 2005). Kapp (2001) points to ethical considerations in the climate of cost containment economics when cost-effectiveness and cost-benefit analyzes are the common way to measure utility. Kapp argues that a fine line exists between researching end-of-life care decision-making and the potential dangers of such knowledge. Kapp's argument validated a prior concern by Hackworth (1993) who suggested that linking cost containment with advance directives would make the public wary of using the documents. Likewise, opponents to advance directives warn of "the slippery slope that claims pressure will be brought to bear on vulnerable people who will interpret the "'right to die' as a 'duty to die'" (Seale, 2010, p. 218). Susan M. Wolf, JD, an associate for law at the Hastings Center comments:

"The courts have properly recognized a broad right to refuse medical treatment; whether it is life-sustaining treatment or not and also properly have recognized that it doesn't depend on your prognosis or diagnosis" (Hackworth, 1991b, p. 44).

Wolf's statement indicates that a patient's right to refuse medical treatment is not contingent on the clinician's prognosis or diagnosis whether the refusal of treatment is in

the patient's best interest. However, Wolf notes that some patients, specifically, those that are disabled may be driven to refuse treatment because of an underlying disparity issue:

“Concerns arise when thoughts turn to disabled persons that “may be driven to exercise their right by a lack of services, support, and money.” “This scenario may create, some fear, an atmosphere in which the ‘right to die’ becomes an ‘obligation to die’ for others with similar burdensome conditions” (p. 44).

The premise of ‘a duty or an obligation to die’ is a frequent topic in conversations in bioethics about end-of-life. The ethicist John Hardwig (1997) asks the question “Is there a duty to die?” Hardwig argues that we have a duty to let go at a certain point because our decisions about medical treatment do not only affect us but also others. Hardwig points to the burden of care that falls on family and loved ones, who may have to give up their employment or make other drastic lifestyle changes to take care of our needs. Moreover, Hardwig argues that it shifts the financial burden of caring for the seriously and chronically ill onto to families. In the same vein, Childress and Fletcher (1994) argue

“In only a few cases of refusal of life-sustaining treatments, for example, would serious harm or injustice fall on others or on the community. However, when patients or their surrogates request treatments deemed futile or deemed not to be cost-beneficial, it is easier to override the principle of respect for autonomy. The debate about futility and cost-benefit should be recognized as a debate over relevant values, with patient or surrogate values having a significant but not necessarily decisive role. Autonomy appears to threaten fair medical and social allocations, because patients appear to have the rights to claim whatever resources they desire, regardless of the burden on the community. It is important not to overstate possible tensions between the respect for autonomy and justice” (p. 35).

The statement above illustrates that patient autonomy is a broad construct. Theoretically, it also applies to patients who believe they have the rights to claim life-prolonging medical treatment at all cost. In that case, patient autonomy is in conflict with another principle in medical ethics—justice. Thus, discussions about patient self-determination

frequently focus on the refusal of unwanted life-prolonging treatment. Research shows that Medicare beneficiaries prefer treatment focused on palliation rather than life-extension (Barnato et al., 2007). However, physicians and the patients' family or surrogates may not always agree with the patients. The Patient Self-Determination Act intended to give patients more control over end-of-life care decisions by providing patients with a legal discourse to have their preferences honored.

### 1.3 The PSDA and the History of Patient Self-Determination

The Patient Self-Determination Act of 1990 (PSDA)<sup>2</sup>, introduced by Senator John C. Danford (R-MO), was enacted on November 5, 1990 and became effective on December 1, 1991. The PSDA mandates health care providers that receive Medicare and Medicaid funds to do the following:

1. Provide written information to inpatients upon admission about:
  - a. The person's rights under the law to make health care decisions, including the right to accept or refuse treatment and the right to complete state-allowed advance directive.
  - b. The provider's written policies concerning the implementation of those rights.
2. Document in the person's medical record whether the person has completed an advance directive.
3. Not discriminate or condition care based on whether the person has completed an advance directive.
4. Assure compliance with state laws concerning advance directives.

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<sup>2</sup> The Patient Self-Determination Act of 1990 (PSDA) amended the Omnibus Budget Reconciliation Act of 1990 (OBRA-90; Pub.L. 101-508, 104 Stat. 1388

5. Provide education for staff and the community on issues concerning advance directives.

Some hailed the PSDA as a breakthrough and a significant step forward toward recognition of individuals' rights at the end of life. For example, Fanella Rouse, JD, executive director of the New York-based Society for the Right to Die, stated, "It's going to change the whole world" (Hackworth, 1991a, p. 1). Others, led by Representative Brian J. Donnelly (D-MA), began immediate efforts in the U.S. Congress to amend the bill, proposing exemptions from the PSDA's requirements for hospitals based on moral, ethical, or religious grounds (Hackworth, 1991c). The PSDA also requires each state to develop and distribute to local health care providers a written description of the law of the state—whether in statute or case law—concerning advance directives (Clarke, 2009). Research, however, shows variations as to how the states met the mandate (Teno, Sabatino, Rouse, & Lynn, 1993). In a review of written state law descriptions of advance directives, Teno and colleagues (1993) found that descriptions of the state law concerning advance directives were succinct and clear, but inadequate. According to the authors, many states had laws that were inadequate because the laws did not address the importance of advance care planning prior to hospital admissions. For example, one-half of the states did not explicate in writing the importance of conversations about advance directives with family or surrogates<sup>3</sup>. Ideally, conversations about advance directives should take place long before a hospital admission (Gawande, 2014; IOM, 2014). Tying advance directives to the admissions process had fueled opposition to the PSDA. Critics of the bill had argued that admission “may be an inappropriate time and setting to broach

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<sup>3</sup> The patient designates a surrogate, also called health care proxy or durable power of attorney (DPOA), in advance. This is also considered advance directives (Teno et al., 1998).

the subject. As a result, admitting staffs doubtlessly will play a vital role in ensuring that the hospital is in compliance, and many of them are quite unfamiliar with the ethical principles behind living wills and durable power of attorneys” (Hackworth, 1991a, p.2). The American Hospital Association, the American Medical Association, the Health Care Financing Administration, and the American Bar Association endorsed efforts to promote advance directives. Nevertheless, they opposed the PSDA because they feared that instead of talking to patients, physicians would hand out written information (Hackworth, 1991a).

In California, the PSDA is the California Consortium on Patient Self-Determination adopted by the California Department of Health Services to implement Public Law 101-508 4/97. Probate codes section §4730-§4736 list the duties of health care providers concerning advance directives.<sup>4</sup> There are two major types of advance directives—living wills and DPOA. A patient must be suffering from an irreversible condition or be terminally ill or both for a living will to go into effect. A DPOA does not need these conditions to be activated; a DPOA can be used even if the patient is not terminally ill or suffering from something irreversible. Like the DPOA, DNR orders can be used even if the patient is not terminally ill or suffering from something irreversible. I will address these implications of these conditions throughout my dissertation. In California, the California Hospital Association’s Advance Health Care Directives form 3-1 is a form used to allow individuals to name a DPOA (also called surrogate) and to give specific instructions regarding the provision, withholding, or withdrawal of treatment.

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<sup>4</sup> The California Consortium on Patient Self-Determination prepared the guidelines for advance directives, which has been adopted by the California Department of Health Services to implement Public Law 101-508 4/97.

Some see the PSDA's purpose as educational while others see its purpose in complying with the principles of patient self-determination by ensuring that advance directives are reliable and honored (Pope, 1999). However, Pope (1999) calls the implementation of the PSDA "The Maladaptation of Miranda to Advance Directives" (p. 139). Pope argues that while hospitals generally comply with the PSDA to inform patients of their right to complete advance directives, they are deficient in providing information how to "meaningful and effectively exercise that right" (p. 141). For example, the PSDA requires that providers must document in the patient's medical file whether the patient has executed an advance directive. If the patient is unconscious but has an existing advance directive, the DPOA is responsible to secure a copy (Clarke, 2009).<sup>5</sup> According to Clarke,

"Providers will comply with the law in a variety of ways, from the marginal legal and painfully superficial to the exemplary. Anecdotal evidence has some providers handing out photocopies of articles about advance directives from the popular press. And that's all. Other providers have given directives and decision-making rights top billing in comprehensive pre-admission packets, complete with state law, instructions, and blank types plus a referral number for more information" (p. 130).

While the PSDA mandates compliance with advance directives according to state law, it does not prohibit the application of state law that allows for objection to the PSDA based on conscience for any health care provider (Clarke, 2009). California, probate codes §4734 through §4736<sup>6</sup> (see Appendix A)<sup>7</sup> govern the states conscience clauses.

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<sup>5</sup> When Clark (2009) talks about providers he refers to health care facilities.

<sup>6</sup> Retrieved from <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=prob&group=04001-05000&file=4730-4736> on 11/17/214)

<sup>7</sup> In California, probate codes §4780 through §4786 govern the request regarding resuscitative measures (see Appendix B). In California, as of 2009, requests for resuscitation measures include either a pre-hospital DNR form as developed by the Emergency Medical Services (EMS) Authority or another substantially similar form, or a Physician Orders for Life Sustaining Treatment form (POLST), as approved by the EMS Authority ( see Appendix B, §4780). Prior to

Conscience clauses allow a health care provider or a health care institution to decline to comply with an individual health care instruction or health care decision that requires medically ineffective health care or health care contrary to generally accepted health care standards applicable to the health care provider or institution.

Tong (2000) underlines that people have always wrestled with death, pain and suffering. Hence, she espouses, discussions about suicide, euthanasia, assisted suicide, and palliative cares are common in the Western tradition (see also Zucker, 1999). The American public, however, began to talk openly about death and dying in the 1960s. The publication of two books—Lael Wertenbaker’s “Death of a Man” in 1957 and Elisabeth Kübler Ross’ “On Death and Dying” in 1969—brought the topic to America’s dinner tables (Urofsky, 2000). By then, modern life-sustaining technologies such as CPR and mechanical respirators had made it possible for people to have functioning heart and lungs while being brain dead and in an irreversible coma (Fine, 2005; Tong, 2000). Christiaan Barnard performed the first heart transplant in 1967 at the Grote Schuur Hospital in Cape Town (Turner, 2010) provoking comparison of the aging body with a “defective machine” (p. 437). In 1968, the Harvard Medical School developed the definition of brain death. Brain death replaced the existing definition of heart failure and respiratory death as the legal criterion to declare death via state law and regulations (Fine, 2005). The criteria for legally defining death became increasingly important as a number of legal and medical initiatives expanded definitions of patient autonomy and patient consent to include a patient’s right to die (Bishop, Brothers, Perry, & Ahmad, 2010).

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2009, in addition to the pre-hospital DNR order, in-hospitals DNR order types were common. The law, however, requires no specific form for the DNR order to be valid as long as the individual, or the individual’s legally recognized surrogate, and a physician sign it.

In order to understand the importance and impact of the PSDA fully we need to understand its history. Most accounts about the legal history of the right to refuse treatment begin with the Karen Ann Quinlan case in 1975; however, courts began to establish the premises of consent and autonomy in the context of health care over a century ago. At that time, the concepts of autonomy and individual liberty were firmly rooted in the Western Tradition. Both Immanuel Kant<sup>8</sup> (1785) and John Stuart Mill<sup>9</sup> (1859) developed the idea of autonomy (Christman, 2015). In the “Categorical Imperative”, Kant argued that autonomy is the freedom to govern oneself and to be independent of an external rule. In “On Liberty”, Mill argued that the only rationale for infringing individual liberty was to prevent harm to others. The case *Union Pacific Railway Co. v. Botsford*<sup>10</sup> (1891) applied elements<sup>11</sup> of these principles to a patient’s objection to a medical procedure (Standler, 2005). The plaintiff suffered a concussion while traveling by train and sued the railroad for negligence. Seeking proof of her allegations, Union Pacific Railway requested a surgical examination of her injuries. The court denied the railroad’s request, however, concluding that:

“No right is held more sacred, or is more carefully guarded by the common law, than the right of every individual to the possession and control of his own person, free from all restraint or interference of others, unless by clear and questionable authority of law” (Standler, 2012, p. 3).

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<sup>8</sup> Immanuel Kant, *Grounding for the Metaphysics of Morals*, 3rd ed., trans. by James W. Ellington (Indianapolis: Hackett Publishing Company, 1993), Ak. 421, 30.

<sup>9</sup> John Stuart Mill, *On Liberty*, in *The Philosophy of John Stuart Mill: Ethical, Political and Religious*, ed. Marshall Cohen (New York: The Modern Library, 1961), 197.

<sup>10</sup> *Union Pacific R. Co. v. Botsford*, 141 U.S. 250, 11 S. Ct. 1000, 35 L. Ed. 734 (1891).

<sup>11</sup> I argue that *Union Pacific Railway Co. v. Botsford* does not apply Kant fully as he calls for the freedom to govern oneself and to be independent from external rule. *Union Pacific Railway Co. v. Botsford* constrains this freedom by clear and questionable authority of the law. For example if a later case law changes the ruling of *Union Pacific Railway Co. v. Botsford*, then it may no longer be applied to issues of patients’ objection to a medical procedure. Likewise, Mill limited liberty only to prevent harm to others, he does not speak of the authority of the law.

Subsequently, the court documented the concept of informed consent in *Schloendorff v. Society of New York Hospital* (1914). Upon intake to New York Hospital, the plaintiff consented only to the examination of a fibroid tumor believed to be malignant; she did not consent to the removal of the tumor.<sup>12</sup> After the physician had determined that the tumor was malignant, he removed it. According to Standler (2012), the court held:

“Every human being of adult years and sound mind has the right to determine what shall be done with his own body; and a surgeon who performs an operation without his patient’s consent commits an assault, for which he is liable in damages” (p.3).

These two cases established the legal protection of patient autonomy and in its applied form, patient consent. Nevertheless, many years passed before these concepts expanded into public inquiries of death and dying and policy initiatives regarding the right to die.

Two early attempts to pass right to die legislation were unsuccessful. The first was a right to die bill introduced by Dr. Walter W. Sackett in Florida's state legislature in 1969. The second was a voluntary euthanasia bill introduced in the Idaho state legislature in 1969 (Humphrey & Clement, 2000). In both, the proponents of the right to die argued for the relief of intractable suffering. In 1968, Luis Kutner, a human rights activist, lawyer, and co-founder of Amnesty International published his rationale for advance directives and introduced the term living will. He wrote that while the law protects patients from treatment without their consent, in the case of an incapacitated patient, the physician assumes consent to life-sustaining treatment. Kutner (1968) proposed that

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<sup>12</sup> *Schloendorff v. Society of New York Hospital*, 105 N.E. 92, 211 N.Y. 125, 133 N.Y.S. 1143 (1914).

patients, while still competent, would outline their treatment preferences so that “The physician would then be precluded from prescribing further surgery, radiation, drugs or the running of resuscitating and other machinery, and the patient would be permitted to die by virtue of the physician's inaction” (p. 551). In the years after Kutner’s proposal, a series of groundbreaking legal cases gave patients permission to die by the removal of life-sustaining treatment.

The Quinlan case is of particular importance to my dissertation because it drew attention to DNR orders. According to Standler (2005), in 1975, Karen Ann Quinlan, after presumably ingesting a combination of drugs and alcohol, stopped breathing for two 15-minute intervals. Quinlan was resuscitated, but she remained unconscious and suffered severe brain damaged, leaving her in a persistent vegetative state (PVS) on life support. After months without any improvement in her condition, Quinlan’s parents requested to stop her artificial life support. Her attending physician refused, fearing residual liability for her death. Quinlan’s father then petitioned the court to gain authority to stop all extraordinary medical measures<sup>13</sup> (Urofsky, 2000). Judge Robert Muir at the New Jersey trial court denied the petition. He held “There is a duty to continue life assisting apparatus. There is no constitutional right to die that can be asserted by a parent for his incompetent adult child” (p. 37). Quinlan’s father, however, won on appeal. In what is considered the “first right to die case” (Fine, 2005), the New Jersey Supreme Court reversed the lower court’s decision and ordered Quinlan’s removal from the

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<sup>13</sup> “Extraordinary care is generally used to refer to medical treatments that, in the particular circumstances, impose undue physical or personal burdens on the patient or that are not likely to substantially improve the patient's condition but merely prolong his dying. Extraordinary care is considered ethically optional, rather than obligatory.” Retrieved from [https://bioethicsarchive.georgetown.edu/pcbe/reports/taking\\_care/glossary.html](https://bioethicsarchive.georgetown.edu/pcbe/reports/taking_care/glossary.html) on 1/31/2014.

respirator. The court concluded that Quinlan, in a moment of lucidity, would have chosen to end life support. Though the court acknowledged that no constitutional right to die exists, it decided that the right to privacy<sup>14</sup> was broad enough to include the right to refuse treatment and for that right to be transferred to a surrogate (Annas, 1989). In a surprise turn of events, Quinlan did not die when the physician removed the respirator because she was no longer dependent on it (Fine, 2005). According to Fine, while patients in a vegetative state do not require mechanical ventilation in the absence of heart or lung disease, they need artificial nutrition and hydration. Since Quinlan's father did not petition the court to discontinue artificial nutrition and hydration, she did not die until succumbing to pneumonia ten years later. The significance of withdrawing patients from artificial nutrition and hydration is because of the "uniquely symbolic significance of nourishment in the mind of many" (Hill, 2004, p. 171). This significance became evident many years later in the Terri Schiavo case.

In addition to the right to consent and the right to privacy of the patient, the Quinlan court recognized the need for legal protection to shield physicians from malpractice suits for refusing to treat incurable illnesses. In this context, the Quinlan case also drew attention to DNR orders. Dr. Julius Korein testified, "Doctors customarily practice judicious neglect" (Jecker, 2011, p. 70) by placing DNR orders in the charts of terminally ill patients to withhold extraordinary life-sustaining measures. Shortly after the Quinlan ruling, both the State of California and the State of Texas passed the Natural Death Act of 1976. It gave legal status to living wills and gave physicians protection from

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<sup>14</sup> See *Griswold v. Connecticut*, 381 U.S. 479, 85 S. Ct. 1678, 14 L. Ed. 2d 510 (1965).

malpractice suits for refusing to treat terminally ill<sup>15</sup> patients. The Natural Death Act, however, would have not applied to the Quinlan case because, while irreversibly ill, “she was not terminally ill, and her death was not imminent” (Annas, 1989, p. 209).

The Quinlan court also initiated the formation of hospital ethics committees. The court noted that the committee should include physicians, lawyers, social workers, and theologians to serve as a prospective review board in cases that involved the termination of medical care (Annas, 1989). The court further noted that the committee would serve as an added layer of protection for physicians from civil and criminal liability (Annas, 1989). In the case of Joseph Saikewics the following year, however, Massachusetts ruled that the “ultimate authority” (Urofsky, 2000, p. 51) is in the hands of the judiciary and not the ethics committee in cases where immunity from lawsuits would be sought (Annas, 1989).

The Saikewics case, while less discussed, is important because it placed “sanctity of preference” over the state’s interest to preserve life. Joseph Saikewics was a 67-year-old developmentally disabled, terminally ill patient at a state institution with a court appointed guardian (Standler, 2005). The guardian recommended the termination of Saikewics’ treatment. The probate and the high court in Massachusetts agreed. Judge Paul J. Liacos, the Chief Justice of the Massachusetts Supreme Judicial Court, based his decision on considerations of the cost paid by Mr. Saikewics in pain and suffering versus the limited benefits of life. Saikewics was also the first case to draw attention to the idea of the cost versus the benefit of life-sustaining treatment. The next important case, Nancy

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<sup>15</sup>It is the medical judgment that the patient’s illness will likely lead to the patient’s death within six month (Christie, 2003).

Beth Cruzan in 1990 became the first U.S. Supreme Court ruling involving a right to die case (Fine, 2005).

A car accident left Nancy Beth Cruzan in a persistent vegetative state (PVS). Cruzan required artificial nutrition and hydration. The local probate court approved the request by Cruzan's parents to remove life support, but Missouri's Attorney General appealed the case. Under Missouri State law, "clear and convincing"<sup>16</sup> evidence was required to confirm an incompetent patient's wishes to either refuse or accept care (Urofsky, 2000). Later, the U.S. Supreme Court affirmed that it was Missouri's right to determine what suffices as "clear and convincing" evidence arguing "there is no automatic assurance that [their] view will necessarily be the same as the patients would have been had she been confronted with the prospect of her situation while competent (Cruzan, 1990, p. 4399)." It was only after the state decided to withdraw its case that the local court heard new evidence and ordered to discontinue Cruzan's artificial nutrition and hydration. Shortly after the Cruzan ruling, the U.S. Congress passed the PSDA.

To conclude, the enactment of the PSDA gave patients ever more control over end-of-life care decisions. It, however, involved a fundamental shift in American medicine from a physician-centered to a patient-centered model of care. According to Starr (1982), few other developments like the health rights movement, "so well illustrate the decline of the professional sovereignty in the 1970s as the increased tendency of the courts to view the doctor-patient relationship as a partnership in decision-making rather than a doctor's monopoly" (p. 389). According to Mendel and Scott (2010), we must

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<sup>16</sup> A standard of proof is that quantum of evidence beyond a mere preponderance but below that of beyond a reasonable doubt. 464 F. 2d 471, 474. Gifis, S. H. (2010). Law Dictionary: Barron's Educational Series, Incorporated.

view the legal history of patient self-determination within the center of the larger social, political, cultural, and economic changes in the delivery of U.S. health care.

#### 1.4 Changes in the Medical Field

“The most important single element in the social structure of medical care is the medical profession itself” (Freidson, 1970, p. 77).

The shift in American medicine from a physician to a patient-centered model of care in the 1970s opened the door for patient self-determination legislation 20 years later. In this section, I review how patient autonomy developed within the center of professionalization and later deprofessionalization of the medical profession (Scott, Ruef, Mendel, and Caronna, 2000; Starr, 1982). Starr (1982) argues that the initial rise of the medical profession at the end of the 19<sup>th</sup> century depended on the profession’s growing authority, which was based not only on technical competence but also on an institutionalized system of standardized education and licensing. According to Starr (1982), two threats to the autonomy of medical professionals emerged with the rise of bureaucratic organization. The first threat was competition among independent physicians and those working in an organization providing medical services. The second threat was the growth of hospitals and insurance companies, which provided facilities and financing for medical care and might subject physicians to “reduce[d]...autonomy and fee setting and decision-making” (p. 25). At first, physicians were able to retain their interest “as hospitals and insurers allowed physicians to remain independent entrepreneurs” (p. 26). Physicians thus turned knowledge into authority and authority into market power. By the beginning of the twentieth century, hospitals had become the center of medical education and practice. Gaining access to hospital facilities was within the vortex of a struggle for power in the medical community. Private U.S. physicians followed their

patients to the hospital to be able to use hospitals and laboratories without becoming employees of the hospital and thus giving up their authority (Starr, 1982). Physicians that follow their patients to the hospitals also created the need for more administration to coordinate activities leading to a rise in hospital administrative activities (Starr, 1982). Next, began the growth of third party insurance in the 1930s. As major public health initiatives had shifted premature death from infectious disease and other conditions to chronic terminal illnesses, people began to die at an older age (Seale, 2000). The increase in life expectancy led to a subsequent increase in hospitalization (Seale, 2010) causing elderly people to die in hospitals instead of their homes. The Hospital Survey and Construction Act (Hill-Burton) in the 1940s further expanded hospital care (Wall, 2011). The Hill-Burton Act mandated the provision of federal grants and guaranteed loans to improve the physical structure and economic viability of the U.S. hospital system. The Act also mandated the provision of free and reduced patient care and prohibited hospitals to discriminate against minority patients (Starr, 1982).

In the second part of the twentieth century, the medical system expanded for both physicians and hospitals. In the twenty years after the end of World War II, the era of professional dominance, independent physicians, professional association, hospitals, and private nonprofit and commercial insurance providers were the driving forces of U.S. health care (Scott et al., 2000). According to Scott and colleagues, physicians created the strongest and most effective organized profession in U.S. history, with the American Medical Association (AMA) as the dominant professional medical association. The quality of care was the impetus for the expansion of medical research and technology. The Health Professions Educational Act (HPEA) of 1963 provided federal support for the

construction and expansion of educational facilities, which increased the supply of physicians. The principle organizing form for the delivery of health care was the hospital: nonprofit, for-profit, or government.

Hospitals that accepted federal funding under the Hill-Burton Act were mandated to provide charity care (Starr, 1982). During the era of professional dominance, hospitals continued to flourish; other types of more specialized providers were not significant until the 1970s. According to Scott et al. (2000), an increase in the specialization among physicians began to erode the medical profession's power and unity.<sup>17</sup> Of particular relevance to my dissertation were the 1965 passage of Medicare providing health insurance for the elderly and the concomitant 1965 passage of Medicaid providing health insurance for low-income Americans and children. The two bills increased access and resulted in further hospital expansion. Furthermore, Medicare and Medicaid ushered in the U.S. government as a major participant in the health care arena as a purchaser and regulator (Scott et al., 2000). Public funding and its allied processes and rules influenced institutional logics (Scott et al., 2000; Starr, 1982). Catholic hospitals, which historically served the poor, primarily felt this weight (Wall, 2011). According to Starr (1982):

“Hospitals with few charity patients and many privately insured ones have little difficulty raising charges on the latter to make up their losses. But hospitals with many charity patients, few privately insured, and the remainder paid at cost can easily find themselves in deep trouble. These are typically hospitals that serve the poor” (p. 388).

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<sup>17</sup> This process is referred to as the deprofessionalization of a profession (Scott & Backman, 1990).

For all hospitals, their technological environment—efficiency and effectiveness outcomes—as opposed to institutional environments became stronger and created concerns about safe and quality health care in hospitals. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO), an independent, nonprofit organization, which issues guidelines to ensure the provision of safe and quality health care in hospitals, nursing homes, and other providers throughout the U.S., began reviewing hospitals for accreditation in order for the hospitals to receive federal funding through Medicare and Medicaid programs. Concurrently, the patient rights movement gained traction with a demand for greater equality between physicians and patients and more sharing of information (Starr, 1982). According to Starr (1982), the rationale for physicians to share information and their authority with patients was that “the courts took the view that doctors had an affirmative duty to present all material facts, including risk of treatment” (p. 389). The patient rights movement was, in particular, significant in light of routine resuscitation after the introduction of CPR in the 1960s (Burns et al., 2003).

In 1972, the American Hospital Association (AHA) adopted a Patients’ Bill of Rights including “the controversial provision [that] said patients had the right to refuse treatment” (Starr, 1982, p. 390). In 1974, the AMA called for the documentation of DNR order status in patient files proposed that DNR decisions be documented in the medical record and argued, “CPR is not indicated in certain situations, such as in cases of terminal irreversible illness where death is not unexpected” (Luce & White, 2009, p. 5). In 1976 along with the Natural Death Act, hospitals drafted the first policies regarding DNR orders. Then, during the early 1980s through the 1990s, managed care began to dominate the delivery of U.S. health care. Health-care corporations, purchasing groups, and

integrated health systems signaled a market orientation focused on cost containment and efficiency. In 1983, the President's Commission on Bioethics Guidelines recommended end-of-life care discussion between physicians and patients about treatment prognosis and the benefits and risks of CPR. After the passage of the PSDA, the JCAHO issued guidelines for patient safety and quality. The guidelines came in response to increases in technologies and demands for living wills and advance directives, in particular, DNR orders (Hackworth, 1991d). Subsequently, the Institute of Medicine (IOM) issued two reports—"Approaching death: Improving care at the end of life (1997)" and *Crossing the quality chasm: A new health system for the 21st century* (2001)." Not only did the increasing importance placed on quality, access, and cost containment influence hospital care (Mendel & Scott, 2010), it changed the traditional paternalistic model of medicine to a more patient-centered care model. While patient self-determination was at the center of this change, the debate had slowed down after the initial investigation into physician-patient communications about end-of-life care treatment decisions [SUPPORT].

Concerned about the lack of discussion regarding the high cost of end-of-life care, Rutecki (2003) argued that the public should make American medicine culpable "for relying on science as a panacea in lieu of recognition of death's inevitability" (p. 14). Just recently, in 2014, the IOM issued a new report "Dying in America" regarding the cost consideration of end-of-life care. It urged the medical community to honor patient preferences to avoid unwanted life-prolonging treatment, which comes at a high cost to society. Gawande (2014) argues that end-of-life care has received so much attention in recent years because of cost considerations alone.

### 1.5 Cost Considerations of DNR Orders

A long-standing issue in health policy is “cost versus care.” In 1990, the medical community claimed that cost would inevitably shape bioethics in the future (Westbury & Calhoun, 1990). Efficiency and effectiveness imperatives influence what hospitals, which are central to the US economy, do to save or earn money. In health care, we measure the efficient use of resources in cost-effectiveness analysis to evaluate the cost of health care interventions. The metric in cost-effectiveness analysis is the cost per case of illness prevented or the cost per year of life gained (Weinstein, Siegel, Gold, Kamlet, & Russell, 1996). We strive for efficient outcomes; at the same time, health care costs make up nearly a fifth of US gross domestic product. The market for hospital care drives the commodification of care (Reich, 2014). Because health care is both a scarce resource and a basic need (Reich, 2014), not everyone agrees that the exchange of health care for profit and gain should determine the organization of health care services (Lown, 2007; Gawande, 2014; Reich, 2014). Reich (2014) suggests that some people will be denied care if they are unwilling or unable to pay for it, which can lead to the rationing of care. Moreover, Reich (2014) points to conflicts between social values and the concerns of disparity such as the denial or lack of access to health care for those who cannot afford it (Reich, 2014, p. 8). Specifically, in end-of-life care, the commodification of health care complicates decisions about when forgoing medical care is appropriate and who is to decide. At the end of life, the commodification of care can lead to supplier-driven demand as lack of information on the patient’s side can lead to profitable treatment that is either futile or unwanted. The PSDA was adopted to mandate hospitals to provide the

information that patients need about end-of-life care decisions and the role of advance directives.

The two major types of advance directives, which I described earlier in this chapter—living wills and Durable Power of Attorneys for Health Care (DPOA)—concern treatment preferences and the designation of a surrogate decision-maker in case that a person should become unable to communicate those treatment preferences. DNR orders can be a part of an advance directive as they express patients' refusal of CPR after cardiac arrest. Indirectly, DNR orders may also constrain Medicare and Medicaid expenditures by preventing costs for hospital interventions contrary to the patient's preferences (Yuen, Reid, & Fetters, 2011). In particular, Medicare is considered influential in end-of-life care because Medicare patients make up the bulk of patients who die each year (Raphael, Ahrens, & Fowler, 2001). It appears simple—we can save money while we honor patients' preferences. Nevertheless, patients (or their families and surrogates) that want a DNR order may hear that continuing life-sustaining treatment is promising. That the treatment is not futile, and that a DNR order is not their "best" option. In this scenario, the decision would be to either honor the patient's preference or to give in to paternalism i.e. that the doctor knows best. Here, doing more than the patient wanted might be a costly mistake. At the same time, there is another "patient preference" in end-of-life care—patients that want more treatment. For example, the family and surrogate of a patient who has gone brain dead may hear that the desired treatment is futile and that a DNR order is their best option. Here, doing less than the patient wanted is within the center of the larger discussion of the slippery slope that leads to rationing and death panels. In today's climate of the commodification of health care (Lown, 2007;

Reich, 2014) the threat of rationed care is a vital concern for many who see advance directives as a cost-cutting mechanism.

Overall, the public has become more accepting of the termination of treatment for irreversible or terminally ill patients. The public support in the recent case of Brittany Maynard, who suffered from inoperable brain cancer, illustrates this recognition. DNR orders, however, do not require the patient to be irreversibly or terminally ill. I argue that it may be more difficult to accept a patient's preference for a DNR order when life-sustaining treatment is promising in the eye of the clinician. Moreover, in a profit based system, incentives are built in that link more provision of care to more profit. New technology, which provides hospitals with new means to provide end-of-life care, can lead to shifts in the supply of end-of-life care. For example, the introduction of CPR in the 1960s led to a supply shift of resuscitations of patients after cardiac arrests (Burns et al., 2003). New technology is important for an additional reason. Physicians that are not employees of the hospital but follow the patient to the hospital, as mentioned earlier in the chapter, are paid according to whether they are employed by a managed care organization or are on salary. If physicians are on salary, they are not paid more for doing more, but if physicians provide care on a fee-for-service basis, they are paid for each additional service they provide (see Pope, 2013, p. 247 referring to Orenlicher, 2010). Reich (2014) argues that there are countless examples of overtreatment in the fee-for-service world. In 1983, the Medicare Diagnostic Related Groups (DRG's) became federal law, and the prospective payment system changed Medicare reimbursement practices by assigning specific prices to specific diagnoses (Kaufman, 2005). Hospitals are paid for acute inpatient services on a prospective basis using DRG's, which sort patients into

groups based on diagnosis and, subsequently, clinical profiles and costs (Teitelbaum & Wilensky, 2007). National averages and the wage index for the cost of labor are used to calculate reimbursements. Kaufman (2005) argues that the prospective payment system was an effort to constrain hospital expenditures by restricting reimbursement and making treatment a crucial component of any hospital stay. The provision of approved treatment had, the author argues, been particularly critical in end-of-life care as it “disallowed a dying of unknown duration” (p. 91). For example, Lamba (2008) argues “some providers consider [DNR orders], as instructions to be passive and ‘do nothing’” (p. 1). Lamba suggested that an International Classification of Disease 9th Clinical Modification (ICD-9-CM) code to “allow natural death” would make physicians active participants in end-of-life care. According to Teitelbaum and Wilensky (2007) hospitals, “may also receive additional payments for providing high-cost outlier cases and incur cost associated with new technologies” (p. 99).

Furthermore, while nonprofit hospitals might not outwardly seek to make profits by supplying futile or unwanted end-of-life care, providing this care can nevertheless strengthen their overall financial performance. A strong financial performance is critical for all contemporary hospitals (Scott & Backman, 1990; White, 2003). Financial health is especially important to Catholic hospitals as the largest private form of nonprofit hospital ownership. Catholic hospitals face pressures from secular market forces and compete with other types of hospital ownership for scarce resources (White, 2000, 2003; see also Reich, 2014).

## 1.6 Catholic Perspective on End-of-life Care

“Some time ago, the bishops of the United States determined that Catholic hospital systems may not operate non-Catholic hospitals that do not follow all of the Church’s moral and doctrinal teachings” (Most Reverend George H. Niederauer, Archbishop of San Francisco, 2009).<sup>18</sup>

“Catholic and secular bioethical perspectives concur in their affirmation of autonomy’s importance” (Christie, 2003).

Hospitals of all ownership types have been “the central workplace of the American health care system” (White, 1982, p. 143). Scott et al. (2000) argue that all contemporary hospitals are increasingly marginalized and struggling to survive, and many are changing in structure. Catholic hospitals today are the largest private, nonprofit segment among health care organization delivering medical care, long-term care, and related health services in the U.S. (White, 2003). In 2009, the Catholic Health Association of the United States (CHAUSA) listed 636 U.S. Catholic community hospitals, which represented 12.7 percent of all hospitals and 15.8 percent of all patient admission in the U.S. (Happening, 2011). In California<sup>19</sup>, during the time of my dissertation (2006-2009) eight Catholic health care systems operated 52 community hospitals—Catholic Healthcare West, Daughters of Charity Health System, Providence Health and Services, Scripps Mercy, Sisters of Charity of Leavenworth (SCL) Health Systems, St. Joseph Health Systems, Trinity Health, and one independent system.

Since the beginning of the 19<sup>th</sup> century, the Catholic Church has been a major provider of healthcare services (White, 2000, 2003). Catholic hospitals have experienced external pressures to compete with other hospital ownership types. During the time of the first Catholic hospitals, strong anti-Catholic sentiment from Protestant Americans caused

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<sup>18</sup> <http://www.catholic.org/index.php/issues2/human-dignity/healthcare/325-catholic-healthcare-west-becomes-dignity-health-what-does-it-mean>

<sup>19</sup> As previously stated my data is limited to California

Catholics to form strong attachments to their Catholic hospitals (Wall, 2011; White, 2003). According to White (2000, 2003), over time society became more secular, weakening the ties between the Catholic Church and the healthcare organizations it sponsors. Catholic healthcare changed from a social welfare ministry to a unique structure of health care delivery. Health care delivery in Catholic hospitals is distinctive because the values, traditions, and rituals of the Catholic Church shape it. At the same time, Catholic hospitals face pressures for efficiency and effectiveness. This mix of Catholic mission, religious treatment protocols, and secular market forces compete with other types of hospital ownership for scarce resources (White, 2000, 2003; see also Reich, 2014). Consequently, Catholic-sponsored hospitals are unique when compared with other hospital ownership types because they face two strong institutional environments and a strong technological environment. For example, today the workforce in Catholic health care has shifted from predominantly Catholic and members of religious institutes to a more secular workforce (White, 2003). Moreover, Catholic healthcare organizations have responded to market and regulatory pressures by changing their scope of services, organizational arrangements, and financing mechanisms (White, 2000; Wall, 2011). White (2003) argues that Catholic health care services have to confront challenges to remain faithful to their mission of providing comprehensive health care to vulnerable and underserved populations.

At the same time, Catholic hospitals have become similar to other hospital ownership types in order to be competitive (Reich, 2014; Wall, 2011; White, 2003). Catholic hospitals are yet quite different from hospitals controlled by other health care systems (Cassidy, 1994; McLaughlin, 2012; Sullivan, 1993; White, 2000; White 2003).

Hospitals sponsored by the Catholic Church are governed by The Code of Canon Law for the Catholic Church. The code grants the diocesan bishop control over treatment protocols to identify an institution as Catholic and to share in the mission of the Church (paraphrasing White, 2003, p. 16). The Ethical and Religious Directives for Catholic Health Care Services (ERDS) describe morally acceptable treatment protocols issued by the United States Conference of Catholic Bishops. Catholic health care systems own hospitals sponsored by the Catholic Church as well as secular hospitals. The recent change from Catholic Health Care West (CHW) to Dignity Health serves as an example. According to the Archbishop of San Francisco, until late January 2012, CHW operated Catholic and non-Catholic hospitals, all of which were expected to follow the ERDS. According to the Archbishop, the arrangement that non-Catholic hospitals were also required to follow the ERDS was unsustainable because it was confusing to patients, their families, health care workers, and Church leaders. Patients could not be certain whether a hospital that was bearing the name Catholic Healthcare West was Catholic or non-Catholic. In his capacity as the Archbishop of the diocese in which CHW's home office is located, the Archbishop of San Francisco proposed that CHW would become Dignity Health. The rationale was that only Catholic hospitals would be required to follow the ERDS. The non-Catholic hospitals would follow their ethical protocol, except not to perform abortions and certain other procedures. The sisters would be permitted to veto any proposed changes to this protocol ([www.catholic.org](http://www.catholic.org)). I noticed, prior to the change from CHW to Dignity Health when all the hospitals in the system had to follow the ERDS that the information on the hospitals' websites would read something like this "As a Catholic health care organization, Saint Agnes Medical Center acts in accordance

with the Ethical and Religious Directives for Catholic Healthcare Services.” After the change to Dignity Health, Catholic hospitals that must follow the directives no longer disclose that they do. I see a problem with non-disclosure in that—patients do not know that their treatment is based on Catholic protocol.

A review of several guides to Catholic end-of-life care (Christie, 2003; Sparks, 2006) and advance health care directives (Miller, 2006) revealed that all refer to the Ethical and Religious Directives for Catholic Health Care Services for specific answers. Advance directives are permissible and supported in Catholic health care; yet, the directives also make clear that the institution will not honor an advance directive that is contrary to Catholic teaching. If a person that is not terminally ill chooses to have a DNR order, opinions could differ on the level of burden CPR would present. The issue of burdensomeness is critical to DNR orders because the ERDS reject life-prolonging procedures that are insufficiently beneficial or excessively burdensome. DNR orders may be perceived as a cost saving mechanism—in another word unethical—because DNR orders do not require the patient to be irreversibly or terminally ill.<sup>20</sup> Thus, Catholic hospitals may believe that DNR orders do not categorically pass the litmus test for avoiding burdensome treatment. The following are excerpts from the ERDS that include the burdensomeness of treatment:

“The truth that life is a precious gift from God has profound implications for the question of stewardship over human life. We are not the owners of our lives and, hence, do not have absolute power over life. We have a duty to preserve our life and to use it for the glory of God, but the duty to preserve life is not absolute, for we may reject life-prolonging procedures that are insufficiently beneficial or excessively burdensome. Suicide and euthanasia are never morally acceptable options” (p. 29).

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<sup>20</sup> The medical judgment that the patient’s illness will likely lead to the patient’s death within six month (Christie, 2003)

The passage above makes it clear that patient autonomy is second to “the duty to preserve life” unless the treatment is “insufficiently beneficial or excessively burdensome.”

Below, the ERDS clarify that it is acceptable to Catholic hospitals for a patient to forgo “useless or burdensome technology.” The ERDS, however, do not clarify in either statement whether patients (or their families and surrogates) are in charge to determine when a treatment is too burdensome.

“The use of life-sustaining technology is judged in light of the Christian meaning of life, suffering, and death. In this way two extremes are avoided: on the one hand, an insistence on useless or burdensome technology even when a patient may legitimately wish to forgo it and, on the other hand, the withdrawal of technology with the intention of causing death” (p. 30).

In the excerpt below, the ERDS allude to the fact that advance directives are not executed at times. The ERDS specify that Catholic hospitals will follow the PSDA, except when an advance directive is in conflict with Catholic teaching. The ERDS, however, do not give an example of an advance directive that would be in conflict with Catholic teaching:

“In compliance with federal law, a Catholic health care institution will make available to patients information about their rights, under the laws of their state, to make an advance directive for their medical treatment. The institution, however, will not honor an advance directive that is contrary to Catholic teaching. If the advance directive conflicts with Catholic teaching, an explanation should be provided as to why the directive cannot be honored” (p. 19).

In the directive below, the distinction between Catholic and secular hospitals becomes clear. The statement “in the event that an advance directive is not executed...,” acknowledges that not executing an advance directive is within the range of choices that physicians may perceive as rational or prudent.

“Each person may identify in advance a representative to make health care decisions as his or her surrogate in the event that the person loses the capacity to make health care decisions. Decisions by the designated surrogate should be faithful to Catholic moral principles and to the person’s intentions and values, or if the person’s intentions are unknown, to the person’s best interests. In the event

that an advance directive is not executed, those who are in a position to know best the patient's wishes—usually family members and loved ones—should participate in the treatment decisions for the person who has lost the capacity to make health care decisions” (p. 19).

The following excerpt suggests that patients (or their families and surrogates) in Catholic hospitals may not have the decision-making power to determine whether treatment is too burdensome. If patients (or their families and surrogates) consider the use of life-sustaining technology is too burdensome, how then could the decision be in conflict with Catholic principles?

“Each person or the person's surrogate should have access to medical and moral information and counseling so as to be able to form his or her conscience. The free and informed health care decision of the person or the person's surrogate is to be followed so long as it does not contradict Catholic principles” (p. 20).

In summary, the ERDS show that under some circumstances, Catholic hospitals will not honor advance directives. The ERDS are not explicit about what the Catholic Church considers burdensome treatment and may consider a DNR order without terminal illness not to be a legitimate wish to forgo life-sustaining technology. In the public, there is confusion and frustration about the uncertainty of the interpretation of treatment protocols in Catholic hospitals. The following is a collection of testimonials that I collected from comments that were posted in a variety of New York Times blog posts and others about Catholic health care delivery. The first comment illustrates the uncertainty of the acceptance of DNR orders that patients potentially face at Catholic hospitals. The comment begs the question what if next time, it is not the nurse, but the ER doctor who says, "We don't honor those here."

“When my grandmother had a heart attack, the Catholic hospital that she was taken to at first would not honor the DNR. The nurses started prepping her for revival, while my aunt (who met the ambulance at the ER) told them repeatedly, "She has a DNR! She has a DNR!" The nurses said, "We don't honor those here."

Fortunately, the ER doctor who came in overheard the conversation and said, "Oh, DNR? We're done" (kanderson321 February 26, 2011 11:40 AM).<sup>21</sup>

The comment below is consistent with the statement above. It clearly shows that people are aware of the potential conflict between religious doctrine as the basis for health care and patient self-determination.

"Lucky us in Santa Fe NM: our only hospital is owned by a Catholic hospital organization, is the trauma hospital for this area of the state, receives vast federal funding for indigent patients; Catholicism is the majority religion of the area, as reflected in patients and hospital staffing. Funny thing: in the eight years of negotiating this sale to the Christus organization, county reps and citizen forums asked directly and often about the relationship of church doctrine on health care. Oops. Hoodwinked?! Come to Santa Fe for the Opera, food, art, hiking, skiing, natural beauty. But be sure to plan your dying elsewhere unless you're in agreement with the bishops and Catholic doctrine. In which case, have a nice visit" (Lynn Santa Fe NM 11 November 2010).<sup>22</sup>

The next two comments, however, show that diverse understandings about end-of-life care in Catholic hospitals exist. In the comment below, the writer is "baffled" about comments that imply that the Catholic Church mandates extra measures to preserve life. Nevertheless, the writer talks about artificial nutrition, not about DNR orders. I illustrated this important distinction in the section on health care ethics.

"I am baffled. I thought that the Catholic Church didn't mandate extra measures to preserve life. It was one of the few things that still made sense - a reverence for life doesn't mean an insistence on prolonging it in all situations. It may mean accepting that one's time has come. There is certainly nothing in Catholicism that honors the prolonging of suffering. Also remember a NYT article about a group of aging nuns who seemed to be able to choose to refuse measures such as being fed against one's wishes. It is also baffling because there are many Catholic run hospices providing palliative care" (Myblackdog NYS 11 March 2010).<sup>23</sup>

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<sup>21</sup> Do Catholic Hospitals allow patients to sign DNRs (Do Not ... (n.d.). Retrieved from <https://in.answers.yahoo.com/question/index?qid=20111002012249AAKU4Kc>

<sup>22</sup> New York Times <http://newoldage.blogs.nytimes.com/2010/03/08/voluntary-end-of-life-measures-banned-at-catholic-hospitals/?module=Search&mabReward=relbias%3Ar> Comment section Retrieved on 12/21/2014

<sup>23</sup> *ibid*

The next comment shows that non-Catholic clergy may not always be clear about treatment protocols in Catholic hospitals.

“As a retired Protestant chaplain, once employed by a Catholic nursing home, this subject has been of paramount interest and importance to me for decades. The current pope has said – ex cathedra – that to refuse treatment, fluids, and food at the end of life would be a sin for members of his denomination. While this has not become canon law, it is part of the church’s “culture of life,” and may become law in the future. With much of our nation’s health care offered by Catholic facilities, it is worth finding out – in advance of admittance – whether the institution supports a patient’s right to refuse all life prolonging options. It could be an unpleasant task – even an impossible one – to move someone out of one hospital/nursing home to another in search of what is wanted. I’ll be reading on with interest” (Joann. October 22, 2008, 9:55 am).<sup>24</sup>

The comment below is especially significant and important because it succinctly argues for the ambiguous interpretation of the ERDS in Catholic hospitals. The writer points to the vague language in the Catholic hospitals’ brochure about patient’s rights that was given to the commenter’s wife.

“Your point about Catholic hospitals is well taken. My wife tried, unsuccessfully, to get some specific info on this point from our local St. Whoever’s, but had to be content with a brochure which said only that the patient’s rights would be respected unless they conflicted with Catholic doctrine, which was left unspecified. From her conversation with the hospital’s people, I inferred that each case would be decided by whichever theologian the diocese had assigned to phone duty that day. That was several years ago” (Frank R. October 22, 2008, 7:32 pm).<sup>25</sup>

The final comment, which is from a member of the Catholic clergy, states that DNR orders are acceptable “if such a procedure would only prolong the person’s suffering.”

The statement suggests that DNR orders are not categorically accepted at Catholic hospitals. Moreover, the statement leaves an important question unanswered: “who has the final word about whether resuscitation would only prolong the person’s suffering?”

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<sup>24</sup> The Right to Know, Then to Say 'No' - NYTimes.com. (n.d.). Retrieved from <http://newoldage.blogs.nytimes.com/2008/10/21/the-right-to-know-then-to-say-no/comment-page-2/>

<sup>25</sup> *Ibid.*

According to the previous statement above, the theologian on duty at the diocese would make the decision on a case-by-case basis.

“Hi, the Church does allow one to sign a “do not resuscitate order” if such a procedure would only prolong the person’s suffering. I can understand your reluctance. It’s not an easy decision to make even though the Church allows it. You and your mom are in our prayers—and there are many of us” (Fr. Vincent Serpa, O.P. Jul 8, '07, 10:30 pm).<sup>26</sup>

These anecdotes illustrate a certain level of discretion that Catholic hospitals exercise in the interpretation of The Ethical and Religious Directives for Catholic Health Care Services. As outlined earlier in the section, while Catholic hospitals have to compete with other types of hospital ownership, Catholic hospitals are quite different from hospitals controlled by other health care delivery systems in that they follow religious treatment protocols based on Catholic doctrine. In the literature review in Chapter 2, I will examine these differences further.

This background information described and discussed why DNR orders remain to be controversial and why DNR order violations may occur. The background included the motivations of decision-makers such as patients and their families, physicians, hospitals, and the public to use or forgo life-prolonging treatment. I identified tension among bioethical principles such as patient autonomy, beneficence, nonmaleficence, and justice, and between professional autonomy expressed through paternalism and patient self-determination. I also described professional norms and how existing structural determinants may limit the range of choices that physicians perceive as rational or prudent (DiMaggio & Powell, 1983). These limitations may bear down on compliance with DNR orders, and more, the implementation of the PSDA. I identified concerns about cost

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<sup>26</sup> What are the Church Rules concerning DNR? - Catholic Answers ... (n.d.). Retrieved from <http://forums.catholic.com/showthread.php?t=167346>

consideration regarding the compliance with DNR orders, and lastly, I illuminated the key issues why Catholic hospitals are becoming more similar to other hospitals but at the same time remain uniquely Catholic. My general research objective is to integrate theoretical models and empirical research to improve and expand our understanding of DNR compliance and its implication on cost.

### 1.7 Research Objectives

When is forgoing medical treatment appropriate, and who is to decide is a current debate in the health policy arena (Burns et al., 2003). Recent examples of this ongoing debate are “Dying in America” (Institute of Medicine, 2014), which draws our attention to the importance of honoring patient preferences in end-of-life care decisions, and “Being Mortal” (Gawande, 2014), which talks about how scientific advances turned the process of aging and dying into medical experiences (p. 6). Gawande argues that the reason that decision-making at the end of life has gotten so much attention in recent years is the expense of unwanted care. Advance directives theoretically protect patient self-determination and limit the unnecessary expense. Because policy developments such as the PSDA facilitate the use of advance directives (Mirarchi, Costello, Puller, Cooney, & Kottkamp, 2011), legal scholars, concerned with the effectiveness of the PSDA to protect patients’ rights, consider the PSDA “a failure by its own terms” (Pope, 1999, p. 139). While state agencies and health care providers have initiated programs and protocols to fulfill PSDA requirements, they are also required to ensure compliance with state laws on advance directives (Clarke, 2009). Whether advance directives are being recognized and honored warrants significant empirical research (Pope, 1999, Clarke, 2009). According to Clarke, it is not certain that all PSDA requirements are being satisfied by all

organization across all settings. The literature shows that there is no guarantee that hospitals honor DNR orders, and that some patients are resuscitated, despite a standing DNR order. I glean this evidence from a rich array of case studies and testimonials that can be found in bioethics literature, legal briefs, and the print media (Berlin, 2000; Kaufman, 2005; Pope, 2013, Schonfeld, Romberger, Hester, & Shannon, 2007). We do not know how prevalent DNR violations are.

The literature reports substantial variation across hospital ownership in DNR order completion rates (Zingmond & Wenger, 2005). However, compliance is not a logical extension of completion. Some states such as California have provisions that allow hospital-wide conscience objections to DNR compliance. These rules increase the range of rational choices of physicians that may have objections to DNR orders. Testimonials imply that there may be a relationship between patient self-determination and uncertain end-of-life care practices in Catholic hospitals. While religion is regarded as a unique institutional influence on organizations (Fink, 2008; Friedland & Alford, 1991; Thornton, 2004), few quantitative studies have been published to advance this argument. Thus, we do not know the prevalence of DNR violations and if they are more likely in some hospitals than in others. Theoretically, hospital ownership could have an effect on compliance with DNR orders but large-scale quantitative studies are absent. We continue to understand compliance with DNR orders poorly. My dissertation fills the gap.

Furthermore, Gawande (2014, p. 153, 173) argues that concerns about the expense of end-of-life care are the reason for the attention to treatment decisions in recent years. Of specific concern is the expense of subsequent unwanted treatment. DNR orders may limit end-of-life care expenditures by preventing costs for hospital interventions

contrary to the patient's preferences (Yuen, Reid, & Fetters, 2011). The concern that unsought medical interventions may lead to higher Medicare expenditures at the end of life is a matter of discussion that is vital to Medicare and Medicaid solvency (Berenson et al., 2009; IOM, 2014). The economic future of the United States may depend on how well it will manage the rising cost of health care (Chernaw & Hirth, 2009). Orszag and Ellis (2007) argue that policymakers must find ways to contain health care costs without inviting adverse health consequences. Otherwise, Orszag and Ellis project that federal spending on Medicare and Medicaid alone will increase from the current 10 percent of the gross domestic product to about 18 percent by 2050 and continue a path that would exceed projected tax revenues. In addition, states are struggling to direct resources for competing critical public services, projecting large revenue gaps. The potential of reduced provider payments may lead to service cuts and the reduction in quality or access to health care (Sandman & Kovner, 2010). Thus, identifying what drives medical expenditures for the chronically and critically ill among the older population is critical (Berenson et al., 2009). In accordance with the general research objectives to examine the prevalence of DNR violations across hospital ownership and cost considerations, two specific questions guided this research—does hospital ownership affect the likelihood of DNR noncompliance—and—does noncompliance affect the total cost from the discharge, on average? An additional research objective was to examine potential associations between patient characteristics and DNR noncompliance.

### 1.8 Conclusion

The PSDA has received much attention in the health policy arena because of its potential impact on end-of-life decision-making and the expense of unwanted treatment.

We still understand DNR violations poorly. I contribute to our understanding of the factors that shape barriers to patient self-determination by integrating theoretical and empirical research to improve and expand our understanding of DNR noncompliance across hospital ownership and its implication on cost. Moreover, while religion is regarded as a unique institutional influence on organizations, few have published quantitative studies to advance this argument. Much uncertainty still exists about the relationship between religious hospital ownership and health care delivery. My dissertation may shed light not only on the scope of DNR violations but also on theoretical approaches regarding institutional influences on organizational decision-making, specifically in the area of medical ethics. My dissertation integrates institutional perspectives and empirical research to improve and expand our understanding of how institutional forces may affect health care outcomes. The study uses a creative model incorporating ICD-9 procedure and diagnostic coded to quantify DNR violation across hospital ownership. The study adds to the data (1) the scope of DNR violations and variation across hospital ownership and patient characteristics, (2) preliminary data on potential costs of DNR violations, and (3) preliminary data on patient characteristics and DNR noncompliance. The evidence from the data aids the long-term analysis of quality and cost of end-of-life care. In addition, this research sheds light on the larger role of religious institutions and the intersection with public policy.

In the first chapter of my dissertation, I detailed the controversial nature of unwanted care and argued why DNR orders remain a contentious issue. I also chronicled the pivotal background information about incremental changes in the law regarding patient self-determination and the shift from professionalization to deprofessionalization

and their effect on the physician–patient relationship over the years. Finally, the first chapter made the case why the issue of unwanted care is important to both patient self-determination and cost considerations of end-of-life care. My next chapter will examine the prior literature relevant to my dissertation. The literature review will explore the paramount theories of policy implementation and sociological approaches to institutional influences on organizational decision-making. The review will examine religious hospital ownership as a unique institutional influence on organizations. The last section of Chapter 2 will review the literature on potential drivers of DNR orders violations and cost considerations. Most important, I will present my conceptual framework detailing the theoretical perspectives that motivated my research objectives and hypotheses.

## CHAPTER 2: LITERATURE AND CONCEPTUAL FRAMEWORK

### 2.1 Overview

The primary aim of my dissertation is to shed light on unwanted treatment in the context of noncompliance with DNR orders. The dissertation's main goal is to investigate variations in DNR compliance across hospital ownership and cost considerations of noncompliance with DNR orders. The previous chapter underlined that the implementation of the PSDA, which was made law in 1990 to give patients more control over end-of-life treatment decisions, is a critical aspect of this study. Thus, this review begins with a general review of the literature on policy implementation. It highlights key ideas from political science and sociological institutional literature that provided the key themes of the study's conceptual framework. Next, the review examines the literature on the individual variables in the hypotheses. Lastly, the review focuses on literature regarding the control variables in this study.

### 2.2 Policy Implementation

DeLeon (1999) described policy implementation as the gray area between policy expectations and policy results (Hill & Hupe, 2002). Since the 1970s and early 1980s, two explanations of policy implementation have received the most attention—top-down and bottom-up approaches. Top down approach focuses on the starting point of the central decision maker (Pressman & Wildavsky, 1973; Sabatier & Mazmanian, 1979; Van Meter & Van Horn, 1975). For example, Sabatier and Mazmanian's Policy

Implementation Framework (1980) identified legal, political, and tractability variables that affect the different stages of the implementation process and influence whether policy goals are reached. The framework is widely known and has been tested in a number of studies, such as and U.S. Hazardous Waste Policy (Bowman & Lester 1989), and the implementation of bilateral voluntary sector-government policy agreements (Elson, 2006). Critics of top-down models argue that proponents of these models assume a policy implementation hierarchy and miscalculate the reach of upper-level control (Brodkin, 1990).

The bottom-up approach then focuses on the local implementation structure of a policy (Hjern & Hull, 1982; Lipsky, 1971, 2000; Weatherly & Lipsky, 1978). For example, Weatherly and Lipsky (1978) examined the implementation of Chapter 766, a state special education law in Massachusetts, which was designed to define and meet the needs of physical, emotional, and/or mentally handicapped children. The policy's goal was to integrate special-needs children more frequently with children in regular classrooms in order to reduce stigmatization. Weatherly and Lipsky examined the interaction between state-level policy and local interaction, specifically, addressing how lower level bureaucrats dealt with the extra workload<sup>27</sup> and the resulting stress for workers. The authors found that poor planning such as neglecting to train teachers to handle children with special needs, and failing to guarantee proper funding distorted the implementation of the policy. The authors concluded that that goal that special-needs children should spend more time in regular class was not reached.

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<sup>27</sup> Primarily, the extra workload came from individual written needs assessments that had to be completed for each child (Weatherly & Lipsky, 1978). This also involved that "Parents for the first time, were to be involved in educational planning for their own children, thereby challenging the autonomy of educators" (p. 180)

As Brodtkin (1990) notes, the bottom-up approach has several strengths. First, the bottom-up analysis is desirable in most social programs when lower level discretion is intrinsic to implementation. Second, the bottom-up analysis is helpful when the policy is vague, specifically, “ambiguous policy is produced when politicians seek to avoid thorny political issues, and effectively pass the buck” (p. 110)<sup>28</sup>. Third, it is desirable when the policy is largely symbolic, which means that the policy is ambiguous and is not adequately supported to fulfill its requirements (Brodtkin, 1990). Brodtkin uses the example of civil rights legislation when “some statutes are best understood as symbolic gestures” (see Edelman, 1964; Ingram & Mann, 1980). Brodtkin (1990) proposes a framework that frames implementation as “policy politics—a continuation of multilayered contests to define social policy” (p. 108) and explicates a strong relationship between social policy and the social politics that produce it. The author argues that the character of a social policy is inherently contested with debates over the appropriate size and reach of the state, the degree of government intervention in private affairs, the distribution of power and material goods, relations among competing interests, and questions of morality and values. Furthermore, Brodtkin argues that in addition to producing vague and ambiguous policy statements, a social policy also influences implementation by channeling policies through decentralized delivery systems. For example, Brodtkin argues, American social politics has produced health care policies that

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<sup>28</sup> Brodtkin (1990) uses Frank Thomson’s study of the implementation of the Emergency Health Personnel Act of 1970 to illustrate a policy with a clear purpose but ultimately ambiguous legislation “The ostensible purpose was to improve access to medical care for people living in so-called “underserved” areas of the country. Yet, Congress did not specify what it meant by “critical shortage areas”, criteria to identify them or the means that should be used to assist them. By avoiding these, “implementation details” Congress also avoided...a confrontation between public health professionals and private physicians over the system that would be used to deliver medical care” (p. 112).

favor public and private insurance schemes over a single-payer national health service. Brodtkin illuminates that policy delivery systems are long-standing institutions with a rich history and social linkages that potentially hinder the coordination, efficiency, and accountability of policy implementation. The conceptual framework Brodtkin advances suggests that in addition to analyzing the reciprocal relationship between social politics and implementation, we need to examine bureaucratic processes and institutions as channels for social policy conflicts.

Brodtkin concurs with Sabatier (1986) who suggests that instead of strict top-down and bottom-up approaches, we need to examine whether policy implementation is contingent on different cultural and institutional implementation environments. Similarly, utilizing institutional theories, March and Olson (1983) and Moe (1989) examined institutional influences on the policy process. March (1994) argues that ambiguity and conflict allow for selective interpretation of those people implementing the policy. In a similar vein, Matland (1995) proposed his ambiguity-conflict model of policy implementation; Matland argues that the success of a policy implementation is contingent on the level of policy ambiguity (i.e., how ambiguous is the policy that is to be implemented) and policy conflict in the implementation environment (i.e., how much conflict does the policy create). Matland argues that when policies are both ambiguous and controversial a bottom-up analysis is desirable. Matland also suggests that in environments where existing policies conflict with the new policy, policy implementation may not be successful. A number of studies used Matland's ambiguity-conflict model to test the implementation process of social and health policies in a variety of settings. Examples are the United Kingdom's Children Act 2004, (Hudson, 2006), the Workforce

Investment Act (Cohen, Timmons, & Fesko, 2005), the reorganization of the Little Rock School District (Howard, Wrobel, & Nitta, 2010), and a study on Canadian abortion policy (Palley, 2006).

I find Matland's insights of benefit to my argument that the adoption and implementation of the PSDA may vary across hospital ownership. I argue that the PSDA is an ambiguous and controversial policy. Besides, in Catholic hospitals, there is potential disagreement between the PSDA and the existing religious treatment protocols outlined in the Ethical and Religious Directives for Health Care Services, which I described in Chapter 1 of my dissertation. While much uncertainty still exists about the relationship between religion on the institutional level and health care delivery, the methodologies covered in this section seem to be a useful approach to explain why the successful implementation of the PSDA may have failed in Catholic hospitals. In the next section, I turn to the literature on health care organizations (i.e., hospitals) and institutional influences on organizational decision-making to examine why health care delivery and specifically, compliance with DNR orders may vary across hospital ownership.

### 2.3 Institutional and Organizational Approaches

“...Far from being automatic, the implementation of public policy decisions is highly problematic” (Scott and Meyer, 1983, p. 113).

During the 1970s and 1980s, institutional theory expanded and began to integrate cultural and structural elements into earlier rational models (Meyer & Rowan, 1977; Scott & Meyer, 1983). Rational models focused on the technical facets of an organization such as operational inputs and outputs; later models proposed that organizations face both technological and institutional challenges (Meyer & Rowan, 1977; Scott, 1991). Meyer and Rowan (1977) drew attention to institutional beliefs, rules, and roles—symbolic

elements (such as cognitive and normative elements) that influence organizations independent from efficiency measures. Organizations code these institutional beliefs, rules, and roles into so-called rational-myths (Meyer & Rowan, 1977). Organizations develop elaborate systems of laws, professional standards, and licensure or accreditation requirements that organizations adopt to make the organization rational; they are myths, however, because organizations accept the roles and beliefs without the evidence of empirical testing (Alexander & D'Aunno; 1990).

In the early 1980s, two teams of organizational scholars—Scott and Meyer (1983) and DiMaggio and Powell (1983)—further developed the cultural and symbolic factors within the environment of organizations. Scott and Meyer (1983) called for attention to relational frameworks within which organizations are located. Likewise, DiMaggio and Powell (1983) drew attention to inter-organizational relationships such as vertical (power-authority) and horizontal (competitive-cooperative) relationships. DiMaggio and Powell (1983) extended the concept of isomorphism (structural likeness) and suggested that as the environment of organizations becomes more structured, organizations become more homogenous. Since organizations compete for not only resources and customers, but also for political power and institutional legitimacy (DiMaggio & Powell, 1983), their survival depends on their ability to conform to externally imposed requirements (Alexander & D'Aunno, 1990). DiMaggio and Powell (1983) identified three mechanisms for isomorphic change—coercive isomorphism, mimetic isomorphism, and normative isomorphism. Coercive isomorphism is the result of both formal and informal pressures exerted on organizations such as an organization's response to a government mandate. A legal requirement, for example, that ensures eligibility for the receipt of

federal funds makes organizational decision-making less adaptive and less flexible. Mimetic isomorphism is the result of uncertainty. For example, when goals are ambiguous, or when the environment creates symbolic uncertainty organizations model themselves on other organizations. Normative pressures stem from larger cultural frameworks and value orientations linked to the role of professions adhering to normative and professional logics (see Scheid & Suchman, 2001). For example, Scott (1991) describes how normative pressures to be legitimate influenced voluntary hospitals to acquire accreditation from the Joint Commission on Accreditation of Hospitals though they were not required to do so.

Scott and Meyer (1983) argue that variation exists in organizations as to how they respond to isomorphic forces, diverging from the purely institutional character of environments described by DiMaggio and Powell (1983). In environments lacking central authority, organizations may become more homogenous via coercive and mimetic processes (Scott & Meyer, 1983). They argue, when power becomes more centralized, decision makers may decide to create a variety of organizational types (I further discuss the variation in organizational responses to isomorphic forces later in the chapter). Moreover, Scott and Meyer's (1983) work links institutional theory to public policy analysis. According to the researchers, during the 1970s public policy analysis shifted from a focus on the determinants of public policy decisions to implementation, which brought attention to the administrative structures linking policy makers to recipients of rules and services. Public policies are often set at a national or state level but are implemented at a local level. Scott and Meyer (1983) argue that the implementation process thus relies on a set of vertically ordered but horizontally coordinated public and

private organizations. The limits of the power and jurisdiction of the national government in favor of strong and independent state and local governments make it difficult to implement a standard policy (Scott & Meyer, 1983). In the 1960s, for example, a lack of co-operation among local organizations responsible to implement federal assistance programs made it difficult to accommodate and integrate the policies. Scott and Meyer (1983) recognize vertical linkages among organizations (i.e., linkages that involve hierarchical levels of authority and power) although they prefer to focus on horizontal linkages (i.e., on about the same hierarchical level) (see also Warren, 1972) and the growing interconnectedness of organization in specific societal sectors.

According to Scott and Meyer (1983), the concept of a societal sector is similar to that of an organizational field developed by DiMaggio and Powell (1983). These are important concepts because the structure and behavior of an organization depend on the sector or field in which it operates. The level of both technological and institutional challenges in which organizations operate separates the sectors (Scott & Meyer, 1983). Scott and Meyer (1983) argue that the institutional environment is the normative procedures to which organizations conform to be rewarded with legitimacy and support. In technical environments, on the other hand, organizations are rewarded for effective and efficient performance—in short—they achieve correct outcomes. The researchers argue that hospitals, for example, have both strong institutional and strong technological environments. I will explicate the importance of this dichotomy in the next paragraphs.

The societal sector that is relevant to my dissertation is the health care industry. Institutional influences on the health care sector are concerned with behaviors and structure of individuals (i.e., physicians) and corporate actors (i.e., hospitals). Research

on medical organizations has evolved from sociological studies of the health care sector and the development of organizational theory (Scott & Backman, 1990); the authors note structural approaches focus on the differentiation of professions and bureaucratic constraints. Professional models emphasize models that stress professional autonomy; bureaucratic models emphasize horizontal (task specialization) and vertical models (top-down coordination) both with centralized power. Examples of bureaucratic models also called heteronomous professional organizations are public social welfare agencies, elementary and secondary schools, and mental health institutions (Scott & Backman, 1990); professional or autonomous forces are at work in universities, hospitals, law firms; they are considered more powerful and fully developed than bureaucratic models. Specifically, the nature of professional work in health care is different because it has greater autonomy because of the medical authority of doctors; yet, bureaucratic structures try to impose control over the work of physicians. Examples are the linkages between the government and the professions in the health care sector via licensure and funding such as the Hill-Burton Act in the mid-1940s to the Medicare Medicaid programs in the mid-1960s to the current prospective payer scheme (see background section Chapter1). According to Scott and Backman (1990), the state does not have the power to dictate which services hospitals provide although it can influence the distribution of services and stimulate the private sector, which underestimates the physicians' autonomy. Nevertheless, physicians have monopoly status (the state requires employers to use only certified practitioners), and they mitigate risk by handling medical problems in a legitimate manner.<sup>29</sup> The professionalization of physicians relieves the organization of controlling the discretionary areas of work (Scott & Backman, 1990). That doctors

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<sup>29</sup> Hospitals are in general risk adverse.

consistently handle ethical issues in health care in a justifiable manner, however, may be a rational-myth (see also p. 53 in this chapter). Physicians' legitimacy is rooted in professional standards, and licensure or accreditation requirements, yet, employers accept physicians' roles and beliefs without the evidence of empirical testing. For example, we do not know whether physicians consistently handle DNR orders in a justifiable manner.

As we move from the study of the medical profession to the study of the health care sector, we shift our attention to wider structures (Scott & Backman, 1990). The authors suggest that professional practitioners organized into corporate bodies (i.e., medical staffs or faculty senates) to make collective decisions and exercise control. Likewise, individually established hospitals became embedded in remote, but influential systems. The open system paradigm in the 1960s and 1970s in organizational theory (see Scott, 1987) recognized that environmental factors are not only forces that are external to the organization, but are at times internalized inputs, such as professional norms, that have become part of the organization (see Scheid & Suchman, 2001).

As mentioned earlier, hospitals have strong institutional and strong technical environments. In hospitals, technical processes focus on results; institutional beliefs determine which outcomes the hospital pursues, and the preeminent outcome in the U.S. is prolonging life (Scott & Backman, 1990). Alternatives such as the relief of pain or maximizing functional status are secondary. Such value choices, they argue, are deeply embedded in the institutional belief system and are so fundamental that they are unconsciously accepted. Scott and Backman (1990) argue that there are three categories in medical ethics—the development of new medical technologies, the organizational changes in the hospital sector (e.g., the rise of investor-owned hospitals), and the change

in pay structure for physicians. The desired outcome to prolong life appears to be at the juncture of these three categories and thus each of these categories may influence DNR compliance.

Institutional theory has at length investigated the resilient aspects of social structure, considering the processes by which institutional beliefs, rules, and roles influence organizations independent from efficiency measures (Scott, 2005). The active interplay of these symbolic elements become authoritative guidelines for social behavior and can mean varying levels of conflict for organizations within the same sector (Meyer, Scott, & Deal, 1981). Hospitals, for example, have historically operated under bifurcated control between hospital administration, attending to the needs of the institutional environment, and medical staff attending to the needs of the technological environment (Scott & Backman, 1990). Scott and Backman argue that under this bifurcated control, nonprofit hospitals and for-profit hospitals may develop differing ethical imperatives. Later, I will argue that Scott and Backman's recognition of potentially changing moral imperatives among different hospital ownership types suggests that conflicting normative forces brought to bear on hospitals may produce varying organizational responses (see White, 2000, 2003). A recent U.S. study that examined professional norms across organizational settings carried out 95 semi-structured interviews with pharmacists practicing in retail and hospital pharmacies (Chiarello, 2013). Chiarello found that organizations influence ethical decision-making by shaping how pharmacists construct four gatekeeping processes: medical, legal, fiscal, and moral. Chiarello found that pharmacists in retail pharmacies had more power to make decisions when compared to pharmacists in hospital pharmacies, which rely on a larger, committee-based decision-

making process. The researcher encourages further research in ethical decision-making across organizational settings. My dissertation expands this idea to DNR noncompliance across hospital ownership.

Variations in organizational response to government mandates are of particular interest to organizational scholars. New-institutionalism assumes as starting point homogeneity of practices and arrangements found in many organizational structures (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). Homogeneity is the result of organizational conformity to rational-myths via institutional isomorphism or ritual conformity (Scheid & Suchman, 2001). However, the idea that organizations over time have become more homogenous has received criticism. First, neo-institutionalism, by itself, cannot explain variations in strategic choices by organizations that face similar institutional pressures (Delmas & Toffel, 2011). Second, research shows that in the area of law, specifically in social policy, regulative or coercive factors are not enough for organizations to show similar responses to mandates. Scholars, who explored variations in organizational conformity to legal mandates, found that organizations could be quite heterogeneous in their enactment of policies (Edelman, 1990; 1992; Edelman & Suchman, 1997; Scheid-Cook, 1992; Scheid & Suchman, 2001; Suchman & Edelman, 1996).

Scheid-Cook (1992) argues that the framing of organizational activity as ritual conformity to environmental, institutional demands must also include considerations of organizational enactment. The researcher posits that enactment frames the environment in terms of processes of reality construction as organizations are actively involved in creating and defining institutional demands. Scheid-Cook used data from a study of the

response of mental health organizations to outpatient commitment (OPC). OPC is court mandated involuntary outpatient treatment, intended to comply with the societal demands for deinstitutionalization of the mentally ill. The study found a high level of local discretion and variation in organizational responses to mandated outpatient commitment. Scheid-Cook suggested that we could understand the variability in the compliance with the policy in terms of organizational enactments, rather than for the variability to be the result of a rational decision-making process. Scheid-Cook concluded that each organization construed the workings of the policy according to its definitions and understanding of OPC, and then conformed to its enactment.

In a similar vein, Edelman and Suchman (1997) called attention to the multifaceted dynamics that entangle law and organizations. They distinguished two broad theoretical perspectives on law and organizations—the materialist perspective, which envisions organizations as rational wealth maximizers and views the law as a system of substantive incentives and penalties, and the cultural perspective, which envisions “organizations as cultural rule-followers and sees the law as a system of moral principles, scripted roles, and sacred symbols” (p. 482). For example, Suchman and Edelman (1996) argue that organizations’ regulatory environment, in which law actively seeks to control organizational behavior, exerts pressure on organizations “primarily by redefining the normative value of old practices or by creating the cognitive building blocks for new ones, rather than by imposing substantive penalties in strict accordance with clear, sovereign edicts” (p. 930). To what extent coercive and normative mechanism influence organizations’ conformity with a legal policy is the focus of Scheid and Suchman (2001).

Scheid and Suchman (2001) found evidence that normative more than coercive mechanisms were at play in business responses to the American with Disabilities Act of 1990 (ADA). The authors employed a random sample of companies to examine their responses to the ADA mandates that govern the hiring of persons with mental disabilities using structured interviews (n=117, 61% response rate). The findings revealed that most of the respondents that had received information about the ADA were adequately knowledgeable about the law. Since the ADA became law in 1992, more than a third of the employers (37.3%) had hired a worker with a mental disability and a third (33.3%) made special recruiting efforts to hire individuals with a mental disability. The findings further showed that receiving information about the ADA was significantly related to the hiring and recruitment of individuals with a mental disability; larger companies were also positively related to compliance with the ADA by hiring or having specific policies for the recruitment of individuals with mental disabilities. Scheid and Suchman found elements of both coercive and normative isomorphism in their findings. The researchers suggest that companies that complied early with the ADA responded more directly to the normative messages of the law. The early adopters appeared to be less uncomfortable with potential employees with a prior history of mental illness. Moreover, Scheid and Suchman suggest that it is possible that these companies would have hired and recruited individuals with a mental disability without the enactment of the ADA. Conversely, employers who did not comply with the ADA were more likely to stigmatize potential employees with a prior history of mental illness. Companies that met with the ADA late were also more likely to be uncomfortable with potential employees with a previous mental hospitalization or employees taking anti-psychotic medication. These companies,

however, eventually complied with the ADA because of its legal mandate. Scheid and Suchman concluded that the success of policies with normative underpinnings was associated with a combination of normative and coercive rationales to comply with the law.

A number of themes became apparent in the institutional and organization literature regarding the effect of varying ethical imperatives on isomorphism. Researchers questioned this effect of changing ethical imperatives across hospital ownership (Scott & Backman, 1990). For example, both the sanctity of life doctrine and the technological imperative to do everything possible to save a life are normative pressures. However, the first of these pressures is related to religion, applies to religiously owned hospitals, whereas the second of these pressures is related to the professions and applies to all hospitals. Another theme that became apparent was the effect of ambiguity and conflict. As explicated in the previous section (see Bodkin, 1990) social policy is inherently ambiguous and contentious. Brodtkin (1990) argues that the implementation of social policy is at times symbolic at best. Matland also speaks of the difficulty of implementing controversial and ambiguous policies. Scott and Meyer (1983) argue that having power or function dispersed from a central to local authorities makes a difference. When power becomes more centralized, decision makers may resist isomorphic forces via coercive and mimetic processes and decide to create diverse structures of organizations. Thus, sociological approaches to institutional influences on organizational decision-making are useful in explaining the anecdotal evidence of variation in DNR compliance across hospital ownership that seems to occur with disproportionate frequency in Catholic

hospitals. There is a need, however, to investigate this relationship with quantitative analysis.

#### 2.4 Catholic Hospital Ownership

Religion is regarded as a unique institutional influence on organizations (Fink, 2008; Friedland & Alford, 1991; Thornton, 2004), thus institutional approaches are suitable to compare health care delivery between Catholic hospitals and other ownership types (White, 2000). This section will focus much on research that has examined Catholic hospital ownership. White (2000, 2003) illustrated three reasons why the institutional perspective is particularly relevant to the study of Catholic hospitals—(1) Ownership and control of Catholic health care is by the Catholic Church (2) Hospitals have to be efficient and effective to compete in the market (3) Values, traditions, and rituals are sociological forces that shape organizations. Catholic-sponsored hospitals are unique across hospital ownership because they face two strong institutional environments and a strong technological environment. According to Scott and Meyer (1983), all contemporary hospitals face institutional environments (such as regulatory bodies and the profession)<sup>30</sup> and technological environments (such as efficiency concerns). Catholic hospitals, White (2000, 2003) argues, have the added institutional environment of the Catholic Church. Catholic hospitals have experienced environmental pressures to compete with other hospital ownership types; thus, on some dimensions Catholic hospitals are like other hospitals (see also Reich, 2014). Evidence shows that Catholic hospitals, compared to secular ownership types, are similar to financial performance and other operational performance indicators (Chou, Ozcan, & White, 2012; White & Begun, 1998). Through isomorphic forces (DiMaggio & Powell, 1983), hospitals have become

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<sup>30</sup> White does not include the professions

more businesslike with for-profit and nonprofit hospitals exhibiting similar attributes, and adopting similar missions and goals (Meyer & Rowan, 1977; Starr, 1982; White, 2000; White & Griffith, 2010). These similar missions and goals are efficiency and effectiveness standards concerning the quality and safety of health care delivery.

Relevant in this context is also the construction of beliefs and values—rational-myths that sustain the legitimacy of institutions (Meyer & Rowan, 1983), and according to White (2003), are “the essence of survival of hospitals sponsored by the Catholic Church” (p. 19). White’s rationale is that Catholic hospitals need to reflect values of the religion in order to maintain legitimacy in addition to the quality and safety of the health care delivery.

White (2000) argues that Catholic hospitals are unique because of differences in four areas—theology, history, law, and mission. The Code of Canon Law for the Catholic Church governs hospitals sponsored by the Catholic Church and indoctrinates the qualities necessary to identify an institution as Catholic. The qualities are, for example, guidance through the Ethical and Religious Directives for Catholic Health Care Services, provision of spiritual care by priest chaplain, and acceptance of Catholic ethical norms by the hospital’s professional staff. Sister Doris Gottemoeller (1999) avows that Catholic identity in Catholic health care is the expression of beliefs and behaviors characterized by adherence to The Ethical and Religious Directives for Catholic Health Care Services. White (2000) suggests that the increasing secularization of society and the decreasing numbers of religious leaders challenges the maintenance of Catholic identity. While the Second Vatican Council shifted the responsibility of Church leadership from the clergy to the laity, the Vatican still controls the debate on Church doctrine that requires the

provision of certain services in certain ways, while prohibiting others. Wall (2011), for example, suggests that in an increasingly secular society, Catholic hospital leaders react with an increased enforcement of the Ethical and Religious Care Directives for Catholic Health Care Services that are often conflict with government and society. In Catholic hospitals patients have no access to abortion—even in cases of rape or incest (Directive 45), no access to in-vitro fertilization (Directives 37, 38, 39), no access to contraception (Directive 52), no treatment for ectopic pregnancy (Directive 48), none of the benefits of embryonic stem-cell research (Directive 51), and limitations for advance directives (Directive 24)<sup>31</sup>.

There are also legal differences between Catholic and non-Catholic hospitals (White, 2000). Catholic hospitals have tax-exempt status (501(c) (3)) that separates nonprofit from for-profit hospitals. Nonprofit hospitals have to provide a public benefit that justifies their tax-exempt status. A 2012 audit of four Catholic hospitals by the California State Auditor (<http://www.auditor.ca.gov>) revealed a number of interesting facts—neither federal nor state law requires nonprofit hospitals to deliver specific amounts of community benefits. Community benefits include health care services that hospitals render to vulnerable populations and for which the hospital is not adequately compensated. In exchange for tax-exempt status by the government, nonprofit hospitals assume a social obligation to provide community benefits that are in the public interest. State law defines community benefits to be a hospital’s activities that aim to serve community needs, primarily through by preventing disease and improving health status (<http://www.auditor.ca.gov>). Each of the audited hospitals had its metric to calculate its

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<sup>31</sup> “How the Bishops’ Directives Derail Medical Decisions at Catholic Hospitals”, John O’Brien, retrieved from <http://rhrealitycheck.org/article/2013/12/04/how-the-bishops-directives-derail-medical-decisions-at-catholic-hospitals/on> 3/1/2015.

cost of providing uncompensated health care because no statutory standard or methodology for calculating these amounts exists. Each hospital had included the cost of charity care and the unpaid cost of public programs in their community benefits plans. Each hospital provided a different level of charity care because laws do not require the provision of a specific level of charity care to justify tax-exempt status. The audited hospitals did not include expenses pertaining to bad debt as a component of their overall community benefits. Bad debt is the unpaid portion of benefits for patients who have the ability to pay but who are unwilling to do so. In addition, hospital officials believe that the level of uncompensated care, including charity care that hospitals provide is associated with the income levels of patients visiting the hospitals regardless of identical policies across hospitals across the same organization. Such uncompensated care encompasses free care (full charity care) or discounted care (partial charity care) for financially qualified patients. For example, one hospital provided charity care during 2010 that was equal to roughly 17 percent of its net revenue while another provided combined charity care equaling 4 percent of its net revenue (<http://www.auditor.ca.gov>). The higher percentage was attributed to the larger number of low-income patients who stay at that hospital compared to the patients who visit one of the other hospitals. Uncompensated care includes charity care, which is the portion of a patient's bill that is uncollectible due to the inability to pay. It is important to note that none of the four hospitals that were included in the audit incorporated bad debt, which is defined as debt from a patient who has the ability but is unwilling to pay when calculating the costs of uncompensated care for demonstrating community benefit. Bad debt is different from costs of uncompensated care such as charity care, which is the portion of a patient's bill

that is uncollectible due to the inability to pay. Reich (2014) suggested that charity care in the Catholic Hospital he analyzed was overestimated. Reich argues, “Holy Care could accurately claim to have granted more charity care, much of the hospital’s ‘charity’ was in fact bills on which the hospital had been unable to collect (This is analogous to a person who was robbed calling her losses a ‘gift’)” (p. 90). Reich, however, may not differentiate between ‘bad’ debt from a patient who has the ability but is unwilling to pay and debt from a patient that is uncollectible due to the inability to pay.

White (2000, 2003) argues that cost considerations have made it more difficult for Catholic hospitals to compete while retaining their social justice mission to provide uncompensated care. White, Chou, and Dandi (2010) reported that Catholic hospitals were more likely to provide services to vulnerable populations than other ownership types. The researchers examined web information from 41 Catholic health systems and 2007 data on 452 Catholic hospitals from the American Hospital Association Annual Survey. They analyzed linkages between health system values gleaned from the web information and actual hospital services for vulnerable populations gathered from the data while controlling for organizational, market, and demand variables. The study found that overall, Catholic hospitals were more likely to provide services to vulnerable populations than were other ownership types. On the other hand, Uttley and Pawelko (2002) found that religious hospitals as a group lag behind public hospitals in providing charity care and service to low-income Medicaid recipients. The researchers used Medicaid revenue and charity care data from six states (California, Florida, Maryland, Minnesota, New Jersey, and New York). The researchers chose these states because they included 30 percent of the acute care hospital beds in the nation. Moreover, the data was

readily available from state agencies or hospital associations. The results showed that non-religious public hospitals reported that 28 percent of their revenues came from serving low-income Medicaid patients. By comparison, religious hospitals reported 12 percent of their revenues came from serving Medicaid patients, slightly lower than for-profit hospitals. Among the religious hospitals in the study, listings in the American Hospital Association guide identified nearly 70 percent as Roman Catholic-sponsored hospitals. The mixed outcomes of these two studies suggest that whether Catholic hospitals provide more charity care and service to low-income Medicaid patients than other hospital types is unclear. Reich (2014) argues that Catholic hospitals have to market their image as value added health care by selling its attention to the spiritual needs of patients as a “luxury good” (p. 13). According to Reich, the value added health care satisfies the needs of the Catholic hospitals’ wealthier patients who have a desire for a personal touch along with the medical care they receive. The care also provides an additional income stream. White, Cochran, and Patel (2002) examined the scope of end-of-life services offered across hospital ownership using data contained in the 1998 Annual Survey of Hospitals by the American Hospital Association (AHA). The study defined the following end-of-life services:

- (1) End-of-life services—an organized service that provides care or consultative services to dying patients and their families based on formalized protocol guidelines.
- (2) Hospice—a program that provides palliative care to relieve pain and offer supportive services that address the non-medical (e.g., emotional, social, financial,

and legal) needs of terminally ill patients and their families. The care can be provided both inpatient and at home.

(3) Pain Management—a hospital-wide formalized program that includes staff education for the management of chronic and acute pain based on guidelines and protocols like those developed by the Agency for Health Care Policy Research.

A survey instrument was sent to all U.S. hospitals (AHA registered and nonregistered) in (N = 6,529). Overall, 4,913 (79%) hospitals responded. The results showed that compared with Catholic hospitals, other nonprofit, public, and investor-owned hospitals, have significantly fewer end-of-life services. The result suggest that the institutional rule—the sanctity of life, which is rooted in religion and the technological imperative to save life at all cost, which is rooted in the professions—may present barriers to some end-of-life care measures.

In a cross-national comparative study of factors of variation in embryo research policy, Fink (2008) found a significant relationship between Catholic societies and stricter embryo research laws, despite the economic advantages of more liberal laws. Research on the influence of religion on other health policies is inconclusive. Garrido, Allison, Bergeron, and Dowd (2012) found no evidence of a relationship between hospitals' religious ownership and treatment protocols. Freedman, Landy, and Steinauer (2008) found empirical evidence that Catholic hospital policy imposed restrictions on reproductive health services, including abortion and contraceptive services. Potter, Stevenson, White, Hopkins, and Grossman (2013) found wide variation in the rate of postpartum tubal sterilization across hospitals. The authors expected a certain level of variation for this procedure across hospitals as they argue that tubal sterilization is

categorically absent in Catholic hospitals. On the other hand, Hapenny (2013) does not support the idea that Catholic hospitals flatly prohibit sterilizations. Hapenny examined all Catholic hospitals in seven states—California, Illinois, Indiana, New Jersey, New York, Texas, and Washington—to determine whether Catholic hospitals provide direct female sterilization. Using inpatient discharge data for each state for three years (2007–2009) data was examined for ICD-9-CM codes for sterilization for contraceptive management. Results showed that 48 percent of Catholic hospitals provided sterilizations in violation of the Ethical and Religious Directives for Catholic Health Catholic Care Services. These important and significant findings show the benefits of large-scale quantitative analysis to investigate organizational decision-making in areas of medical ethics.

White (2003) suggests that there are certain areas where Catholic hospitals remain distinctly Catholic. White illustrates the strong Catholic tradition of respect for life and the dignity of death and argues that services that involve procreation and palliation are empirically different when comparing Catholic and secular hospitals. Overall, empirical research that addresses treatment protocols in Catholic Hospitals appears to focus on reproductive issues. To the best of my knowledge, no research has examined Catholic hospital ownership and DNR compliance. Catholic Church sponsored research that has involved end-of-life care decisions frames medical ethics theologically. For example, a monthly newsletter, published by the Sisters of St. Mary (SSM) Health Care Systems founded by the Franciscan Sisters of Mary, examines contemporary ethical issues in health care. While the Catholic Church has written extensively on the subject of applying moral principles when contemplating the withholding and withdrawing of life-sustaining

treatment such as artificially provided nutrition and hydration, the literature is not clear whether Catholic teachings grant a person an unconditional right to refuse CPR after going into cardiac arrest.

## 2.5 Barriers to DNR Compliance

“However clean, neat, legal the right to life-sustaining treatment may seem on paper, it is not always so clean, neat, and practical inside a hospital room’ (Rodriguez, 1999 cited by Pope, 2013, p. 216).

Health care policy analysts and health economists have long explored how health care systems determine and facilitate types of dying (Kaufman, 2005). Kaufman conducted an ethnographic study over a span of three years in California hospitals and observed that hospital systems organize the use of life-sustaining technology and day-to-day activities. Together, she posits, institutional and technological imperatives found in hospitals create the threshold between life and death. Early examples of research into advance directives included a group of investigations about patient-physician communications regarding the use of advance directives. The Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments (SUPPORT) is thus far the most comprehensive U.S. study on in-hospital end-of-life decision-making. It investigated patient-physician communications regarding the use of advance directives and DNR orders in five university hospitals during a 4-year span beginning in 1989 (Kaufman, 2005). Its goal was to improve end-of-life decision-making on the part of critically ill patients and their physicians by facilitating better patient-physician communications about patient preferences for treatments (Kaufman, 2005). The principal investigators conducted a 2-year prospective observational study (Phase I) with 4,301 patients and followed it with a 2-year clinical trial (Phase II) that included 4,804 patients

and their physicians. In the trial phase, the patients were randomly assigned to either the intervention group (n = 2,652) or the control group (n = 2,152). The intervention involved the facilitation of advance care planning and patient-physician communication. Results after the completion of Phase I showed that only 47 percent of physicians knew when the patient wanted to avoid CPR. Results after Phase II showed that the enhanced patient-provider communications did not increase the completion of DNR orders.

Using data from the SUPPORT study, a number of investigations into barriers to doctor-patient communication about end-of-life care followed (Pritchard et al., 1998; Teno et al.; 1994; Teno et al., 1997; Teno et al., 1998). Teno et al. (1994) suggested that having an advance directive had no significant effect on limiting the use of CPR at the time of death. Teno and colleagues found that 61 percent of the advance directives they viewed did not explicitly state a preference to forgo CPR. According to the study, advance directives were too vague to be relevant to medical decision-making. Kaufman (2005) noted that existing documents are vague and uninformed about a person's current medical condition, which has been a long-standing concern in the scholarly community (Emanuel, 1992; Dresser, 1993). Teno and colleagues (1997) assessed the effectiveness of advance directives (ADs) on DNR decision-making before and after the PSDA. The cohort design (n = 9,105) examined severely ill patients treated in five U.S. teaching hospitals. It questioned patients, surrogates and attending physicians about awareness, completion, and impact of ADs on the completion of DNR orders at the time of death. Medical charts were audited for ADs, discussions about resuscitation preferences, completion of DNR orders, and the use of DNR orders at the time of death. As in previous studies, findings showed that ADs did not substantially improve decision-

making. Moreover, the researchers found no significant differences between the “before” and “after” PSDA groups regarding the use of DNR orders. Teno et al. (1997) concluded that ADs did not facilitate provider-patient discussions or decision-making about resuscitation. In a follow-up study relevant to the current study, Teno et al. (1998) addressed whether physicians may simply disregard ADs. Using a mix-methods design, the authors examined fourteen hospitalized, seriously ill (i.e., were comatose, had objective estimate of prognosis for surviving two months of 40% or less, or died during this hospital admission) at five medical centers. Patients were randomly assigned to receive patient-specific information and specialized nurse-assistance to enhance decision-making about resuscitation. Quantitative data were collected using chart audits and interviews. The nurse who assisted with the decision-making process provided the contextual elements. According to the researchers, in each of the fourteen cases, the patient lost the ability to communicate treatment preferences and the ADs should have been invoked. In five cases, life-sustaining treatment was only stopped when the patient was “absolutely, hopelessly ill” (p. 439). In two of the fourteen cases, the family member wrongly reported that the patient had executed an advance directive. In the remaining seven cases, ADs played a narrow role. The findings suggested that physicians were aware of the existence of their patients' advance directives but that, in most cases, the physicians and family members considered ADs not applicable. The physicians and family members did not perceive the patients as irreversible ill, despite the patients' serious illnesses. This study clearly suggests that patient preferences are second to the perceptions of physicians and family members regarding the seriousness of patients' illness.

The studies above used the rationale that to improve end-of-life decision-making you need to facilitate better patient-physician communications. Pritchard et al. (1998) used a different motivation to find factors of end-of-life decision-making. They used SUPPORT data in combination with administrative databases for the Medicare program to carry out a national cross-sectional analysis of Medicare enrollees' place of death (i.e., hospital versus non-hospital) personal characteristics (SUPPORT), and local health systems. Measures used for local health systems included greater nursing home and hospice availability, and hospital bed availability and use. For Medicare beneficiaries, the percent of patients dying in-hospital varied from 23 percent to 54 percent across U.S. Hospital Referral Regions (HRRs). The study's results suggested that sociodemographic or clinical characteristics or patient preferences did not affect the place of death. Hospital bed availability and use across were the strongest predictors of the place of death, which indicated structural rather than individual barriers to improving decision-making.

The original SUPPORT investigators reflected years after they completed the studies that many of their assumptions about end-of-life decision-making were problematic (Lynn et al., 2000). The researchers assumed that individual decision-making drives treatment choices, however they later admitted, "Practice patterns and social expectations may be strong influences in shaping patients courses of care [but] innovations in system function, such as quality improvement or changing the financing incentives, may offer more powerful avenues for reform" (Lynn et al., 2000, p. 214). The investigators conclusion about the influence of practice pattern and social expectations supports my rationale that organizational decision-making in hospitals is linked to hospitals' institutional environment.

While the PSDA holds health care institutions responsible to inform individuals of end-of-life care choices that include DNR orders, the implementation or enforcement of the policy is not consistent (Connelly, 1998; Gelbman & Gelbman, 2008; Martin et al., 2007). Few studies have examined compliance with DNR orders<sup>32</sup>. Heinz (1997) reviewed the medical charts of 602 deaths for one year at a general acute care hospital. The charts revealed that out of 68 patients that had advance directives and met the conditions for invocation of the advance directive, in fewer than 50 percent of the case were the advance directives honored. The study, however, did not show specific data about DNR compliance. Grudzen et al. (2009) found that even when the family confirmed that the patient had a written pre-hospital do-not-resuscitate order; patients were often resuscitated because the family could not produce the document. The study examined pre-hospital records of 897 individuals who went into out-of-hospital cardiac arrest. In 492 cases, cardiac arrest occurred at home, in 111, a public place, and in 93 cases cardiac arrest occurred in a nursing home. For the remaining 201 individuals, the location was unknown. Six percent of the patients had a written DNR order. Ten of the 55 DNR patients were resuscitated, mostly, because the DNR could not be located at the time of the cardiac arrest.

To the best of [my] knowledge, thus far Zingmond and Wenger (2005) published the only study that links hospital ownership to DNR orders. The study, a retrospective cross-sectional analysis of patients 50 years and older admitted to acute-care hospitals in

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<sup>32</sup> A study set in Germany and Sweden, which used survey-design to evaluate compliance with DNR orders and ADs, found that among 191 doctors and 182 nurses from Germany and 104 doctors and 122 nurses from Sweden, the frequency of CPR performed against the patient's wishes varied between 32.5% (German doctors for DNR scenario) and 8.3% (Swedish nurses for AD scenario). The investigators underlined that an increase in information regarding the patient's wishes and preferred treatment options explained the variance (Richter & Eiseman, 1999).

California in 2000 (n = 819,686), used logistic regression to predict the likelihood of having DNR orders written within 24 hours of intake hospital across hospital ownership controlling for patient characteristics. The authors did not distinguish between nonprofit facilities, such as religious non-Catholic, Catholic, and non-religious nonprofit hospitals. Nevertheless, Zingmond and Wenger (2005) provide useful insights about the varying use of DNR orders. Results showed that the odds of having early DNR orders written were significantly lower in for-profit versus nonprofit hospitals. Zingmond and Wenger suggest a link between hospital characteristics and the use of DNR orders, controlling for patient characteristics such as age, race, and gender. Furthermore, the significantly lower early DNR orders written in for-profit versus nonprofit hospitals imply a more pro-DNR order environment in nonprofit hospitals thus pointing to structural barriers in the use of DNR orders. The lack of distinctions between nonprofit hospitals (e.g., secular versus non-secular), although, may overestimate the effect of nonprofit hospitals on early DNR orders written. Moreover, Zingmond and Wenger (2005) did not discuss that the completion of a DNR order is no guarantee that the hospitals honored the patient's preference. My research objectives will extend their research on DNR orders by analyzing noncompliance with DNR orders across hospital ownership type.

We largely base our knowledge about DNR noncompliance upon empirical studies that illuminate individual cases (Berlin, 2000; Kaufman, 2005). In recent years, however, there has been an increasing amount of literature in legal journals, which investigate jurisprudence and compliance with DNR orders (Pope, 1999, 2010, 2013). Pope argues that while U.S. courts and legislatures have developed a substantial body of patients' rights jurisprudence, clinical practice has not evolved nearly as far. Moreover,

clinicians perceive the risks not to treat the patients as greater than to treat regardless of patients' preferences. This perception, Pope argues, is the cause of much defensive medicine. Defensive medicine takes place when the threat of medical liability influences clinical decision-making. A recent study with a random sample of physicians (n=3,000) from the American Medical Association (AMA) Physician Masterfile showed that 91 percent of the respondents believed that physicians order unwarranted tests and procedures to protect themselves from malpractice suits (Bishop, Federman, & Keyhani, 2010). The results suggest that defensive medicine appears to be a normative pressure linked to the role of professions adhering to normative and professional logics (see Scheid & Suchman, 2001).

A recent review of the literature on unwanted life-sustaining treatment reveals several factors that may contribute to DNR noncompliance (Pope (2013). For example, physicians are frequently unaware of the existence of their patients' advance directives Johnson, Baranowski-Birkmeier, and O'Donnell (1995). This unawareness may give way to the presumption that the patient wanted life-prolonging treatment (Anderson, Chase, Pantilat Steven, Tulskey, & Auerbach, 2010). Mirarchi, Costello, Puller, Cooney, and Kottkamp (2011) found that clinicians often misinterpret advance directives to mean something not intended by the patient. At the same time, Breault (2011) argues that in the case of DNR orders, their application to CPR is explicit. Clinicians, however, frequently doubt that DNR orders should apply to iatrogenic arrest (i.e., medically induced cardiac arrest) (Burkle, Swetz, Armstrong, & Keegan, 2013; Redmann, Brasel, Alexander, & Schwarze, 2012). For example, in a survey of 200 anesthesiologists, nearly two-thirds unilaterally "assumed that the patients' DNR orders were suspended in the perioperative

period” (Schwarze, Redmann, Alexander, & Brasel, 2013, quoted by Pope, 2013, p. 237).

Furthermore, Pope (2013) argues that conflicts about surrogates can be problematic.

Clinicians will turn to surrogates for help because advance directives are rarely “self-executing” (Pope, 2013, p. 238). An angry surrogate's action, “even if frivolous will cost the provider in legal fees.” Pope (2013) reports:

“In one recent case, the physician complied with the patient's mentally competent DNR order when the 78-year-old patient knew that he had a poor chance to survive from the surgery. But the patient's son sued the physician for not following his (the son's) instructions to perform CPR” (p. 239).

Pope (2013) also believes that it is quite common that physicians follow a vitalistic philosophy of medicine, which is the belief that life is more than the sum of its chemical processes (Kirschner & Mitchison, 2000).<sup>33</sup> Pope argues that while law and ethics strongly support patient autonomy and self-determination, there remains a significant amount of physician paternalism as I discussed in the previous chapter. Physicians, as introduced in chapter 1, traditionally have controlled the calculation about the futility of treatment. Therefore, “there's still a fair number of doctors around who are uncomfortable with patients being DNR ... [It may be the physician's] medical opinion that there is not sufficiently ill to warrant the DNR order” (Dembner, *supra* note 39, statement of Dr. David Clive as quoted in Pope 2013 footnote 203 p. 46). For example,

“New York physician Mahmood Yoonessi, a specialist in gynecologic oncology, performed an "extensive surgical procedure" on a 67-year-old patient with advanced ovarian cancer. Unfortunately, the patient developed problems post-operatively necessitating blood transfusions and lost decision-making capacity. The patient's family was then empowered to make treatment decisions on the patient's behalf. They soon determined that "enough was enough." So, they authorized the entry of a Do Not Attempt Resuscitation order ("DNR") and

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<sup>33</sup> “In the early nineteenth century, views on the nature of living organisms were broadly divided into two categories, chemical, and vitalist. The former held that life was a consequence of complex, but ultimately knowable physicochemical processes, while the latter posited some nonnatural, perhaps unknowable, properties of living systems.” Kirschner & Mitchison (2000).

directed that the patient receive no further transfusions. But Dr. Yonessi rejected these instructions because he "wanted to further aggressively treat the patient." He said, "I don't care what the family wants", and ordered blood anyway. Furthermore, Dr. Yoonessi told the family that "they were being like Jack Kevorkian, that if this was his mother he wouldn't allow this to happen, and that they were playing God by not allowing their mother to have further treatment." Dr. Yoonessi, in short, deliberately disregarded the wishes of the patient and her authorized surrogates."

The above narrative is a clear example of physician paternalism versus patient-autonomy. According to Pope (2013), conscience-based objection status allows clinicians to decline to comply with treatment refusals not only for professional reasons, but also for personal conscience-based reasons. About financial incentives, Pope (2013) argues that clinicians administer unwanted life-sustaining treatment because overtreatment is well-reimbursed (Eappen et al., 2013). As Pope explains, clinicians are often "paid more for doing more" and will continue to allocate their time to activities that generate higher compensation (Pope, 2013, p. 247 referring to Orenlicher, 2010). The issue relates back to the commodification of care, which implies that the market for health care determines the organization of health care services (Reich, 2014). As a result, fraud and abuse enforcement are growing (Goldman, 2012). As Pope (2013) points out, "health care providers are regularly charged with fraudulently unwanted treatment in order to maximize revenues" (p. 247). According to Pope (2013), hospitals have been guilty of "extending hospitalization through assigning release dates designed only to coincide with the expiration of insurance benefits rather than on the basis of the patient's condition" (p. 247). The current fee-for-service reimbursement model incentivizes clinicians to provide more treatment to deploy more technology, even more than the patient desires.

## 2.6 Cost Considerations and DNR Orders

“Dying is not billable; you cannot treat it” (Kaufman, 2005, p. 91).

There are assumed financial incentives in providing unwanted care. Therefore, much of the current literature on end-of-life care pays particular attention to cost considerations (Gawande, 2014; IOM, 2014; Reich, 2014). Kapp (2001) draws our attention to ethical considerations in the climate of cost containment economics. Kapp argues that a fine line exists between researching end-of-life decisions and the potential dangers of such knowledge. Kapp’s analysis validates previous concerns that linking cost containment with DNR orders would make the public wary of using the documents (Hackworth, 1993). In today’s climate of cost considerations of care (Lown, 2007; Reich, 2014) the threat of rationed care is a vital concern for many who are concerned that DNR orders are used as a cost cutting device (see Chapter 1).

Previous scholars have studied cost considerations of care for the critically and chronically ill older population (Gandjour, 2009; Iglehart, 2009; O’Neill, Ettner, & Lorenz, 2008; Scitovsky, 2005; Sutherland, Fisher, & Skinner, 2009; Zhang et al., 2009). Scitovsky (2005) questions the use of life-sustaining treatment regarding the quality of life and the life years gained. Scitovsky concludes that in an era of cost containment, the high cost of end-of-life care has prompted the analysis of individuals’ actual and perceived cost-benefit of end-of-life care. In recent years, there has been growing interest that some chronically ill and dying Americans may receive care beyond their preferences (IOM, 2013; Wennberg, Fisher, Goodman, & Skinner, 2008). While life-sustaining interventions for the elderly may come at a high cost (Hogan, Lunney, Gabel, & Lynn, 2001; Hanchate et al., 2009), research is not conclusive about improved outcomes (Fisher

& Wennberg, 2003; Skinner, Staiger, & Fisher, 2006). These investigations have underscored that more care and higher cost may not always correlate with better health outcomes. For example, survival rates after inpatient CPR did not improve from 1992 through 2005 in an epidemiological study on survival after CPR (Ehlenbach et al., 2009). The findings also caution against the potential overuse of expensive technology in the intensive care unit (Skinner, Staiger, & Fisher, 2006; Stefanacci, 2009).

Zhang et al. (2009) linked Medicare spending to the supply of services for patients with chronic illnesses or in their last six months of life, which accounts for a disproportionate amount of total expenditures. Research shows that discretionary spending by physicians via specialized high tech treatments accounts for most of the regional differences (Emanuel, 1992; Kapp, 2001; Skinner, Staiger, & Fisher, 2006). The cost of end-of-life care in the context of ADs has attracted considerable interest since the passing of the PSDA. However, we still know little about cost and DNR use. Research about the use of advance directives and Medicare expenditures has been inconclusive (Emanuel & Emanuel, 1994). A few studies showed no savings in resources following advance directives (Schneideman et al., 1992; Teno et al., 1997); yet, advance directives were linked to a reduction in health care costs at the end of life in one quantitative study (Maksoud, Jahnningen, & Skibinski, 1993). The result showed that discharge costs were significantly lower when a patient was admitted with an established DNR order compared with those patients for whom a DNR order was written later during the hospital stay. These researchers conducted a retroactive review of a single hospital's charts, which revealed that average charges for each patient who died were \$61,215 with \$10,631 for those admitted with a DNR order, and \$73,055 for those who had a DNR written late in

the course of the hospital stay. The study, while dated, did not explain whether CPR was used or not. Nevertheless, the findings were a first step for future studies about DNR orders and their potential for lowering the costs by reducing unwanted care. A more recent Canadian study suggests that the use of advance directives may reduce Canadian Medicare expenditure. Molloy et al. (2000) found that an increase in the use of ADs reduced health care services utilization without affecting satisfaction or mortality. In their study of 1,292 residents in six large Ontario nursing homes, intervention nursing homes reported a reduction in average total cost per patient from Can\$5,239 to Can\$3,490 when compared to control nursing homes. Nicholas, Langa, Iwashyna, and Weir (2011) examined the data of 3,302 Medicare beneficiaries who died between 1998 and 2007. They linked the data to Medicare claims and the National Death Index and used multivariable regression models to examine associations between ADs and end-of-life Medicare expenditures. Results showed that advance directives were associated with significantly lower levels of Medicare spending related limitation in end-of-life care. The authors provided no explanation how they conceptualized and measured limitation in end-of-life care. Zhang (2009) however did report that physician-patient discussions about end-of-life care were associated with lower rates of intensive intervention. The study reported a 35.7 percent lower mean aggregated cost of care for patients who reported end-of-life care discussions compared to those who did not. In summary, relevant studies about advance directives and cost considerations, in general, are sparse, and studies that focus on DNR orders and costs are practically absent from the current literature. In addition to the absence of literature on DNR orders and cost, research on patient characteristics and DNR compliance is also sparse.

## 2.7 Patient Characteristics and DNR Orders

Notably Pope (2013) did not postulate race, gender, or age as leading causes of unwanted life-sustaining treatment. Like Kaufman (2005), who posits that while, race, and ethnicity are important considerations in any study of health care delivery—

“They are not—singly or together—the, or even a, major influence on how death is made”...“this is particularly true in the hospital at the end of life, when the organizational features of the system so powerfully influence the unfolding of events...they did not predict that patients resistance, or that of his or her family, to making choices about the termination of life prolonging treatment” (p.333). “And I could not isolate or characterize, from my conversations or observations the degree to which ethnicity, religion, age, or gender played a part in individual physician choices about life-prolongation” (p. 336).

Although, there is ample research that unlike Kaufman (2005) relates the use of DNR orders to patient characteristics such as the research on demographic characteristics and DNR use (Alano et al., 2010; Levy et al., 2005; Shim, Russ, & Kaufman, 2008; Smith & O’Neill, 2008). The other is in the vein of literature that examines demographic characteristics and a higher medical risk that may affect health outcomes (Bullock, 2006; Jha, Fisher, Li, Orav, & Epstein, 2005). The latter is more relevant to my research as it focuses on compliance with DNR orders as a health outcome. Of most relevance to my dissertation, Seale (2010) suggests that cultural patterns associated with race or ethnicity can influence how desirable individuals see personal control of the dying process. Investigations into race and advance directives suggest that Blacks are less likely than Whites to complete advance directives (Hopp & Duffy, 2000), discuss advance directives (Salmond & Estrella, 2005), and trust providers’ advice on end-of-life care (Blackhall et al., 1999; Caralis, Davis, Wright, & Marcial, 1993). Moreover, cultural patterns may play a role in surrogate decision-making. Pope (2013) speculates that demanding and

conflicting surrogates or uncertain status of the surrogate decision-maker are two of the leading causes of unwanted treatment in hospitals.

Blacks' historical lack of trust in the medical profession (e.g., the Tuskegee syphilis experiment) may lead to surrogate decisions not to follow physicians' counsel on advance directives (David, 2008; West & Hollis, 2012). Seale (2010) notes, "Where people are poor and have inadequate access to health care, there is far less concern about the dangers of excessive medical care being provided" (p. 218). He pointed to King and Wolf's (1997–1998) account of what he calls "the long history of discrimination and disadvantage experienced by African Americans whose autonomy of decision-making is compromised because of their race" (p. 218). King and Wolf (1997-1998) suggest that Blacks perceive physician-assisted suicide "Not as the opening up of an opportunity, but merely as permission for another way of ending black lives" (see Seale, 2010, p. 218). In another example, Seale noted King and Wolf's quote of an elderly black woman from Dula's (1994) report:

"Look like every time I turn on the TV, somebody is talking about euthanasia and doctors helping kill off old and sick folks. Well, I ain't seen them ask nary a elderly black on none of them TV shows and news programs what they thought about euthanasia. I believe the Lord will take me away when it's time to go" (p. 1022)

Hanchate et al. (2009) corroborates Seale (2010) argument that inadequate access is associated with a lower concern about the dangers of excessive medical. Hanchate et al. (2000) conducted a study linking racial and ethnic variations in Medicare expenditures in the last six months before death to life-sustaining intervention. The colleagues concluded that Blacks are less willing to have DNR orders or use hospice, but are more likely to prefer life-sustaining treatments at the end of life, thus producing substantively higher

cost at the end of life. The authors used surgical procedure codes in the Medicare inpatient file during the last six months but did not investigate whether advance directives were invoked or not. Therefore, the data does not show whether the life-sustaining intervention was indeed, the patient's preference or the physician's decision.

Loggers et al. (2009) conducted an interview-based cohort study of 302 patients with stage IV cancer and caregivers to examine predictors of end-of-life care for black and white advanced cancer patients. Of the patients, 68 were black, and 234 were white. Findings showed that black patients (13.2%) received more intensive end-of-life care compared with white patients (3.4%) controlling for other sociodemographic attributes. The investigators suggested that the caregivers and clinicians of white patients were more concerned with the patient autonomy. This attention might also explain why no white patients who reported either a conversation about end-of-life care or the completion of a DNR order at baseline received intensive care in the last week compared with black patients. Unlike the white patients, some black patients received intensive end-of-life care in the last week of life despite having a DNR order. For the black patients reported having a DNR order at baseline and yet received intensive end-of-life care in the last week of life, a different informal caregiver than the patient's usual informal caregiver was present. The researchers also suggested a lack of awareness of the DNR order by informal caregivers and clinicians. The placement in a facility other than the one providing the patient's primary oncology care at the time of terminal hospitalization was also a predictor for intensive end-of-life care. The predictors confirm the association between professional norms and unwanted life-sustaining treatment, which is discussed in detail earlier in this chapter (Pope, 1999, 2010, 2013). The investigators concluded that

social forces, beyond the immediate oncologist-patient interaction, might play a larger role in determining end-of-life outcomes for black patients than for white patients.

While research on race and DNR orders or end-of-life care, in general, is sparse, even fewer researchers have addressed the question of gender and unwanted treatment. We know little about gender in this context. Women outlive men and may have to rely on children or extended family as surrogates. However, the reliance on proxies may also increase interference with DNR orders (see Pope, 2013). The same applies to the age of the patient. The older a patient is, the higher the likelihood of surrogate decision-making. At the same time, arguably, the older a patient is, the higher the likelihood that life-prolonging treatment is considered futile. Unscheduled admissions and acute emergency department admissions may also relate to noncompliance. These types of admission generate a more stressful decision-making environment, which could affect DNR compliance (Payne & Thornlow, 2008).

To sum up the literature review, my dissertation contributes to knowledge in a number of fields. The prior theoretical literature on policy implementation and institutional influences on organizational decision-making suggest that normative pressures, which stem from larger cultural frameworks and value orientations, influence how organizations implement policies. My dissertation advances the argument that religion is a unique institutional influence in the policy implementation process. However, previous studies of DNR orders have not dealt with religious hospital ownership and DNR compliance. While previous studies investigated DNR prevalence, my dissertation adds knowledge about compliance with DNR orders and the impact of hospital ownership on DNR order compliance. Moreover, my dissertation adds a

quantitative analysis of cost consideration of unwanted care to the existing literature on the quality and cost of end-of-life care. My dissertation also informs the relationship of race, gender, and age and DNR compliance.

## 2.8 Conceptual Framework

Drawing from institutional approaches to organizational decision-making, I extend the construct of rational-myths (beliefs and values) to medical ethics (Meyer & Rowan, 1977). I argue that the PSDA embodies and promotes new rational-myths of institutionalized patient-self-determination to which hospitals respond in dissimilar ways (see Scheid & Suchman, 2001). The hospitals in their desire to remain unique and distinct thus could be quite heterogeneous in their implementation of the PSDA (see Edelman, 1990; 1992; Edelman & Suchman, 1997; Scheid-Cook, 1992; Scheid & Suchman, 2001; Suchman & Edelman, 1996), which in return may lead to DNR compliance with varying degrees of success. My conceptual framework is interdisciplinary as it builds on various yet related disciplines. I draw from institutional models of organizational studies (DiMaggio & Powell; Rowan & Meyer, 1977; Scott & Meyer, 1983) and on research examining institutional influences on organizational responses to legal mandates (Scheid-Cook, 1992; Scheid & Suchman, 2001), which expanded neo-institutional theory by integrating institutional isomorphism with elements from the study of law and society (Edelman, 1992; Edelman & Suchman, 1996; Suchman & Edelman, 1997). I draw explicitly from research that makes the case of Catholic hospitals as unique institutions (White, 2000, 2003). I further draw from policy implementation literature that examines the challenges to the implementation of social policy (Brodkin, 1990; Matland, 1995).

Last, I apply a number of scholarly works that examine cost considerations and unwanted treatment (Mouksand, Yuen, Reid, & Fetters, 2011).

Meyer and Rowan (1977) argue that technology alone does not shape organizational structure. The colleagues drew attention to “rational-myths” in types of institutional beliefs, rules, and roles—symbolic elements (cognitive and normative) that influence organizations independent of resource flows and technical requirements. The rational elements of organizations are the development and adoption of elaborate systems of laws, professional standards, and licensure or accreditation requirements. The rational elements are myths, however because the roles and beliefs are held true devoid of empirical testing (Alexander & D’Aunno; 1990). In that vein, institutional isomorphism conceives that organizations are becoming more homogenous by responding to rational-myths in like ways as they compete not only for resources and customers, but also for political power and institutional legitimacy (DiMaggio & Powell, 1983; see also White, 2003). DiMaggio and Powell (1983) identified three mechanisms for isomorphic change—coercive, mimetic, and normative. Coercive isomorphism is the result of both formal and informal pressures exerted on organizations. I argue the PSDA is a legal requirement for hospitals to ensure patient self-determination; it also ensures hospitals’ eligibility for the receipt of federal funds (Medicare and Medicaid reimbursements). Mimetic isomorphism is the result of uncertainty such when the environment creates symbolic uncertainty; hospitals model themselves on other hospitals. The PSDA’s goal is ambiguous and may create environmental symbolic uncertainty concerning the PSDA’s mandate for patient self-determination (Brodkin, 1990) thus; hospitals, for example, may mimic behavior of other hospitals regarding the distribution of information about advance

directives on hospital websites. Normative pressures in hospitals stem from larger cultural frameworks and value orientations linked to the role of physicians in adhering to normative and professional logics (see Scheid & Suchman, 2001). Professional beneficence may constrain patient autonomy. DNR orders may not be perceived as beneficial to the patient. In addition, continuing life-prolonging care may be an additional source of revenue. Furthermore, hospital treatment protocols may be in conflict with the PSDA on some level.

From the three types of isomorphism espoused by DiMaggio and Powell (1983)—coercive, mimetic, and normative—coercive isomorphism in the form of a legal mandate has been traditionally considered to be the most direct and unambiguous form of institutional influence (Scheid & Suchman, 2001). Scholars that integrate neo-institutional and law and society models question the stronghold of legal mandates on organizations. Edelman and Suchman (1996) argue that multifaceted dynamics entangles law and organizations. Scheid and Suchman (2001) argue that the law is often ambiguous, contested and symbolic. Thus, organizational decision makers are responsive to normative appeals and cognitive framings. These researchers found evidence that normative forces were more relevant in shaping business responses to the American with Disabilities Act of 1990 (ADA) than coercive forces were.

Furthermore, organizations not only face institutional environments described, but they also face technological environments (Scott & Meyer, 1983). Scott and Meyer argue that hospitals have strong institutional and strong technological environments. In hospitals, technical processes focus on efficiency and effectiveness outcomes, which focus on safe and quality health care in hospitals as outlined by the JCAHO. However,

institutional normative constraints determine which outcomes the hospital pursues and the preeminent outcome in the U.S., according to Scott and Backman (1990), is prolonging life. The normative constraints may lead to varying ethical imperatives between, for example, nonprofit, and for-profit hospitals. According to White (2000, 2003), via isomorphic forces, Catholic hospitals have become more businesslike to compete with for-profit and other nonprofit hospitals, thus, exhibit similar attributes, and adopting similar missions and goals (Meyer & Rowan, 1977; Starr, 1982). According to White (2003), Catholic hospitals are nevertheless unique because not only do Catholic hospitals face institutional and technical environments affecting all contemporary hospitals, but they also have the added institutional environment of the Catholic Church. The Catholic Church has a unique institutional environment “imbued with values, ritual, myths, and ceremonies emanating from the tradition of the Roman Catholic Church” (p. 83) and may resist isomorphic forces to remain a distinct Catholic institution (White, 2003). The Code of Canon Law for the Catholic Church governs hospitals sponsored by the Roman Catholic Church, which specifies the qualities necessary to identify an institution as Catholic. These qualities are enunciated through the Ethical and Religious Directives for Catholic Health Care Services, provision of spiritual care by priest chaplain, and acceptance of Catholic moral norms by the hospital’s professional staff. White (2000) suggests the increasing secularization of society and the decreasing numbers of religious leaders challenge the maintenance of Catholic identity, which emanates from the tradition of the Roman Catholic Church. Wall (2011) suggests that in an increasingly secular society, Catholic hospital leaders react with an increased

enforcement of the Ethical and Religious Care Directives for Catholic Health Care Services.

Matland's (1995) conflict-ambiguity policy implementation framework also informs my dissertation. The researcher suggests that highly ambiguous and highly controversial policies are difficult to implement when existing policies are in conflict with the new policies. The PSDA is a highly ambiguous and highly controversial policy that is potentially in conflict with the values and beliefs of the ERDS in Catholic hospitals. I argue that the PSDA represents new rational-myths in the institutional environment of hospitals because the PSDA expresses a new set of legal and normative standards for the use of advance directives and the ensuring of patient self-determination (see Scheid & Suchman, 2001). However, if the institutional environment is in conflict with the new rational-myths represented by the PSDA, the organizational response by Catholic hospitals may be isomorphic resistance. We may find less compliance with the PSDA and more DNR violation in Catholic hospitals. DNR order violations may lead to subsequent unwanted treatment, which in turn may lead to higher hospital discharge cost (Berenson et al., 2009; Hanchate et al., 2009).

## 2.9 Hypotheses

I argue that the PSDA represents new rational-myths to which hospitals of different ownership types respond in dissimilar ways (Scheid & Suchman, 2001). Catholic hospitals, according to White (2000, 2003), face in addition to technological, environmental forces, competing secular and theological environmental forces, and thus may resist isomorphic tendencies, specifically, the legal requirement to adopt and implement the PSDA fully. Therefore, we may find less compliance with the PSDA and

more DNR violation in Catholic hospitals. Research also indicates that end-of-life care accounts for a disproportionate amount of total expenditures (Hanchate, 2009). The potential overuse of expensive technology thus exists. DNR noncompliance may lead to extra unwanted treatment contrary to the patient's preferences, which can lead to subsequent unwanted treatment, which in turn will result in higher costs. In addition, unlike white patients, some black patients reported having a DNR order at baseline and yet receive intensive end-of-life care in the last week of life (Loggers et al., 2009). Women outlive men and may be more likely to have a surrogate decision-maker. I hypothesize that I will find a difference in DNR noncompliance between female and male patients, but I do not have enough evidence in the literature to indicate the direction of the difference. In regards to age, older age is related with terminal and irreversible illness. Thus, clinicians are more likely to consider life-prolonging treatment as futile. Thus, I negatively relate DNR noncompliance to age. In conclusion, the conceptual framework motivated the following hypotheses:

H1: Catholic hospital ownership increases the likelihood of DNR noncompliance.

H2: DNR noncompliance increases the total cost from the discharge, on average.

H3: Patient characteristics affect the likelihood of DNR noncompliance.

This hypothesis was followed by three sub-hypotheses:

H3a: Black patients are more likely to experience DNR noncompliance.

H3b: Females differ from males in the likelihood of DNR noncompliance.

H3c: Age increases the likelihood of DNR noncompliance.

## CHAPTER 3: METHODOLOGY

### 3.1 Overview

In this chapter, I describe the research design and methodology. Drawing from institutional approaches, I argue that Catholic hospitals, in addition to technological environments faced by all hospitals, also face competing secular and theological environmental forces and thus may resist isomorphic tendencies. In a Catholic hospital, we may find less compliance with the PSDA and more DNR violation. DNR order violations may lead to subsequent unwanted treatment, which in turn may lead to higher hospital discharge cost. Specifically, I test the following hypotheses:

H1: Catholic hospital ownership increases the likelihood of DNR noncompliance.

H2: DNR noncompliance increases the total cost from the discharge, on average.

H3: Patient characteristics affect the likelihood of DNR noncompliance.

This hypothesis was followed by three sub-hypotheses:

H3a: Black patients are more likely to experience DNR noncompliance.

H3b: Females differ from males in the likelihood of DNR noncompliance

H3c: Age increase the likelihood of DNR noncompliance.

### 3.2 Research Design

I used secondary data analysis of 2006 through 2009 California inpatient discharge data to examine hospital stays of patients 65 years or older with a standing DNR order who had suffered in-hospital cardiac arrest. The unit of analysis was a

discharge abstract for an individual hospital stay. I pooled the data across the years 2006 through 2009. The combined data were not longitudinal since the data did not follow the same individuals over the four years of data.

### 3.3 Data and Study Population

The discharge data came from State Inpatient Databases (SID), California. I analyzed ICD-9-CM diagnosis and procedure codes contained in the discharge data. ICD stands for International Statistical Classification of Diseases and Related Health Problems, published by the World Health Organization. ICD assigns a number to every disease and procedure. Considering that my dissertation addresses unwanted end-of-life treatment and related Medicare and Medicaid expenditures, I limited the study population to hospital stays for elderly patients. I used multiple data sources to test the five hypotheses. I used California 2006-2009 State Inpatient Databases (SID) from the Healthcare Cost and Utilization Project (HCUP), Agency for Healthcare Research and Quality (AHRQ). The HCUP databases are the product of a federal-state partnership sponsored by the Agency for Healthcare Research and Quality (AHRQ). In collaboration with HCUP, data organizations collect and maintain data in statewide data systems to provide the universe of inpatient discharge abstracts in participating states. Data included in the hospital discharge abstract include principal and secondary diagnoses and procedures codes, patient characteristics, and total charges accrued during the hospital stay. The HCUP partner for the state of California is the California Office of Statewide Health Planning and Development. I also used data from the AHA Annual Survey Database™ for the fiscal year 2010. The data is distributed through Health Forum, LLC, which is an affiliate of the American Hospital Association. Only the 2010 AHA Annual

Survey Database was available when I conducted the analysis. I checked that 2006-2009 hospital ownership matched the 2010 AHA Annual Survey Database with online information about hospital sponsorship. For example, I checked the website of the Catholic Hospital Association. According to the website, three hospitals were Catholic during 2006 through 2009 that the AHA data did not list a Catholic hospital. I made the corrections prior to conducting the statistical analysis.

To link the two data sources, I used HCUP American Hospital Association (AHA) linkage files, which are hospital-level files designed to supplement the data elements in the SID. I also used HCUP Cost-to-Charge Ratio data files. The purpose of these files is to provide Healthcare Cost and Utilization Project (HCUP) data users with ratios to convert the hospital charges into cost. Each file contains hospital-specific cost-to-charge ratios based on all-payer inpatient cost for nearly every hospital in the corresponding SID database. The cost information is based on hospital accounting reports collected by the Centers for Medicare and Medicaid Services (CMS).

More than 90 percent of the hospitals in California are community hospitals. Non-community hospitals in California make up approximately 9 percent of the hospitals. The AHA defines community hospitals as all nonfederal, short-term, general, and specialty hospitals. Community hospitals include academic medical centers and specialty hospitals such as obstetrics, gynecology, otolaryngology, short-term rehabilitation, orthopedic, and pediatric hospitals excluding hospital units of institutions. Non-community hospitals include federal hospitals (e.g., Veterans Affairs, Department of Defense, and Indian Health Service hospitals), long-term hospitals, psychiatric hospitals, alcohol/chemical dependency treatment facilities, and hospital units within institutions such as prisons

(Introduction, HCUP). Not all hospitals matched across the SID, the AHA, and the AHA linkage files during a manual check comparing hospitals by SID and AHA identifiers.

The SID came in American Standard Code for Information Interchange (ASCII) format on a compact disc with read-only memory (CD-ROM) (Introduction to HCUP). The American Hospital Association (AHA) Linkage File came directly from the HCUP website, in CVS format. I used SPSS® and STATA® statistical software for the analysis. The SID ASCII files were loaded into SPSS with the program provided on the HCUP website. Cost-to-Charge Ratio Files (CCR) were in CVS format and loaded directly into SPSS. Likewise, the American Hospital Association (AHA) Linkage files were loaded into SPSS. There are three hospital identifiers listed on the data source I used. The hospital identifier—DSHOSPID—is the original hospital identifier from the source (California Office of Statewide Health Planning and Development). The AHA hospital identifier—AHAID—is used to merge the SID with the AHA Annual Survey of Hospitals that contains information on hospital characteristics. The HCUP specific hospital identifier—HOSPID—is used to merge the SID to the HCUP Cost to Charge Ratio data files. The final data included approximately 96 percent of all community and non-community hospitals in California. Hospitals not in the study were federal government hospitals and hospitals either not reported by the data sources or not linked during the data merging process (See APPENDIX D). I acknowledge that even with over 96 percent of California inpatient hospital discharges, the data may still not act like a census. In another time, with the identical hospitals, there might be a slightly different pattern of noncompliance. On the other hand, since no sampling was involved to select hospitals for the study, I refer to the data as a population and not a sample.

From the population, I selected all discharges for my final study population that met the following criteria: (1) patient was 65 years and older, (2) patient suffered in-hospital cardiac arrest (ICD-9 code 4275) or cardiac complications (ICD-9 code 9971), and (3) a standing DNR order was recorded in the discharge record. In some reports, CPR is noted to be a life-sustaining procedure after respiratory or cardiac arrest. While respiratory and cardiac arrests are distinct, respiratory arrest—inevitably, if the respiratory function is not immediately restored—leads to cardiac arrest. The respiratory arrest alone is not an indicator that CPR is needed for life to be restored. Thus, the study only used discharge records of patients who suffered cardiac arrest. I included only the hospital stays of those patients that had a record of a standing DNR order in their discharge because of my theoretical premise to test DNR noncompliance for those patients that had a DNR. My rationale to limit the study population to hospital stays with cardiac arrest in the discharge record is also of a theoretical nature. For the outcome to be either compliant or noncompliant, the DNR order would have had to be invoked. Furthermore, as cardiac arrest precedes CPR. There is an economic dimension to DNR violations. If extra cost accrues for a hospital stay of a patient who had a standing DNR order at the time of resuscitation, the patient, arguably, received a service for which the patient had no demand. Further, an analysis of hospital stays of all patients regardless of DNR status might evoke the argument that doing less than the patient wanted is a slippery slope that leads to rationing and death panels. The last chapter in the study discusses this issue in more detail. The logical argument was that the hospital had to face a CPR decision in the case of cardiac arrest or cardiac complications.

I also used patient and hospital characteristics in my analysis. The rationale was that patients might select into certain types of hospitals based on personal characteristics potentially correlated with the dependent variable or key explanatory variables in either hypothesis. I measured whether a hospital's stay was scheduled or unscheduled. I also measured emergency admissions. I included a measure for the length of stay in the hospital as a longer stay may increase the likelihood that a resuscitation scenario may occur. I also included Medicare and MediCal. I also included the race, ethnicity, gender, and age of the patients.

The hospital characteristics I included were teaching status and size measured in the number of beds. Several studies, for example, Connors et al. (1995), Teno et al. (1997), Teno et al. (1998), and Pritchard et al. (1998) conducted their studies exclusively in teaching hospitals. While their findings have not been compared to other settings, it is important to control for hospital teaching status as it may affect DNR compliance. Furthermore, my analysis controls for the number of hospital beds as the research found that hospital bed availability affects end-of-life decision-making (Pritchard et al. 2008). Thus, my analysis controls for both teaching status and the size of the hospital. The operational definition of organizational size was the number of hospital beds. My analysis also controls for the hospitals' county and the year of the hospital admission to account for county specific (e.g., county can be a proxy for local costs) and time specific influences on the dependent variable. Prior to testing the hypotheses, I checked the frequencies of my nominal data, and the descriptive (i.e., central tendencies) of my continuous variables. Specifically, I tested whether the distribution of discharges across hospital ownership were the same for all patients 65 years and older as the distribution of

patients 65 years or older with a standing DNR order who suffered cardiac arrest. Table 1 presents the summary statistics for the study population of patients 65 years of age or older with a standing DNR order who suffered in-hospital cardiac arrest for California, 2006-2009 hospital stays.

The data show that out of 9,074 patients with DNR orders who had suffered cardiac arrest, 2,540 patients (28%) had an ICD-9 code for resuscitation in their discharge record. The average age of patients in this population was 80.6 years [(Std. Dev. = 7.63) (Min. = 65) (Max. = 106)]. The average length of a patient's hospital stay was 6.49 days [(Std. Dev. = 14.09) (Min. = 0) (Max. = 365)]. The majority of patients in this population were female (54%); Most patients were white, followed by Hispanic (13.9%), and then black (6.2%).<sup>34</sup> As expected for the population of 65 years and older, in over 90 percent of the hospital stays, Medicare (87.7%) or MediCal (4.1%) paid for the hospital stay. Unscheduled admissions were responsible for over 92 percent of the hospital stays. Additionally, the data suggested that the majority of patients in the study population resided in major metropolitan areas (72.8%) and nearly one-quarter resided in high-income zip codes (24%). The average hospital in the data had 302 beds [(Std. Dev. = 174.69) (Min. = 10) (Max. = 931)]. The majority of hospital stays were in nonprofit non-religious hospitals (48.2%) followed by Catholic hospitals with 20.6 percent of the hospital stays. Government non-federal hospitals made up 14.4 percent of the stays, for-profit 13.5 percent and religious non-Catholic hospitals made up 2.9 percent of the stays. Regarding the hospitals' teaching status, the majority of the hospital stays in the analysis were non-teaching hospitals (67.5%). Approximately one-quarter of the hospital stays

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<sup>34</sup> Black seems low and Hispanic high until we think about the racial makeup of Los Angeles and much of California in general.

were in minor teaching hospitals, and approximately 9 percent were in major teaching hospitals.

Table 1: Patient and hospital characteristics in ownership model (N = 9,074)

Variable	Percentage	Mean	Std. Dev.	Min	Max
<b>Patient Characteristic</b>					
Age		80.60	7.63	65	106
Length of Hospital Stay		6.79	14.09	0	350
Female	54.0				
Black	6.2				
Hispanic	13.9				
Medicare	87.7				
MediCal	4.1				
Scheduled Hospital Stay	7.9				
Emergency Room Admission	82.9				
Urban Patient ZIP Code	72.8				
High Income Residential ZIP	25.0				
CPR (Dependent variable )	28.0				
<b>Hospital Characteristic</b>					
Number of Beds		302	174.69	10	931
Religious non-Catholic	2.9				
Catholic	20.6				
Nonprofit non-religious	48.6				
Government non-federal	14.4				
For-profit	13.5				
	100.0				
Minor Teaching Status	24.7				
Major Teaching Status	8.8				
Non-Teaching Status	67.5				
	100.0				

I confined the study population for Hypothesis 2 to observations that included the cost variable (see Table 2). This population includes fewer observations than the population for Hypothesis 1. The number of patients with a DNR order that had an ICD-9

code for resuscitation in their discharge record was 2,112 out of 7,285 patients (29 percent). The average age of the patients was 81 years of age [(Std. Dev. = 7.66) (Min. = 65) (Max. = 106)]. The patient's hospital stay was 6.29 days, on average. [(Std. Dev. = 12.42) (Min. = 0) (Max. = 341)]. Female patients were the majority (54%) as were white patients, followed by Hispanic patients (13.9%) and black patients (5.3%). In over 90 percent of hospital stays, the payee was either Medicare (87.2%) or MediCal (4.2%). Scheduled hospital stays made up less than 10 percent (8.1%) of the hospital stays. The majority of the patients (71.6%) resided in major metropolitan areas while one-quarter of the patients (25.2%) resided in high-income zip codes. The average hospital in the data had 303 beds [(Std. Dev. = 181.54) (Min. = 10) (Max. = 931)]. The majority of hospital stays were in nonprofit non-religious hospitals (40.1%) followed by Catholic hospitals with 25.1 percent. Government non-federal hospitals made up 16.4 percent of the stays, for-profit 15.2 percent and religious non-Catholic hospitals made up 3.2 percent of the stays. The majority of the hospital stays in the analysis were non-teaching hospitals (73%), 19.2 percent of the hospitals were minor teaching hospitals and 7.8 percent were in major teaching hospitals.

Table 2: Patient and hospital characteristics in cost model (N = 7,285)

Variable	Percentage	Mean	Std. Dev.	Min	Max
<b>Patient Characteristic</b>					
Cost		21344.23	30872.42	71.6078	414115
Age		80.2	7.66	65	106
Length of Hospital Stay		6.29	12.42	0	341
Female	54.0				
Black	5.3				
Hispanic	13.9				
Medicare	87.2				
MediCal	4.2				

Table 2: (continued)

Scheduled Hospital Stay	8.1
Emergency Room Admission	83.9
Urban Patient ZIP Code	71.6
High Income	25.2
CPR	29.0

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 Hospital Characteristic
 

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Number of Beds		303.35	181.54	10	931
Religious non-Catholic	3.2				
Catholic	25.1				
Nonprofit non-religious	40.1				
Government non-federal	16.4				
For-profit	15.2				
	100.0				
Minor Teaching	19.2				
Major Teaching	7.8				
Non-Teaching	73.0				
	100.0				

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### 3.4 Operationalization of Variables

In this section, I describe the operational definitions of the variables in the study. Hypothesis 1 included most of the variables in the analysis thus here is where the bulk of the description and operationalization takes place. In Hypothesis 1, the dependent variable is defined as “Noncompliance.” Noncompliance, as outlined in the introduction, is conceptualized as a patient with a standing DNR order who receives cardiopulmonary resuscitation (CPR). The variable was operationalized by coding six ICD-9 codes that describe resuscitation measures for patients into one binary variable. The six codes are—cardiopulmonary resuscitation (ICD-9 code 9960), nonmechanical methods of resuscitation (ICD-9 code 9393), other electric countershock of heart (ICD-9 code 9962), closed chest cardiac massage (ICD-9 code 9963), open chest cardiac massage (ICD-9

code 3791), and injection of therapeutic substance into the heart (ICD-9 code 3791). These six ICD procedure codes have been used in previously published research to operationalize in-hospital resuscitation (see Liang et al., 2000). To assure the accuracy of the ICD-9-CM diagnosis and procedures codes used in the analysis for 2006 through 2009 data, I checked the codes for code changes against the Final Addenda ICD-9-CM Volume 3, Procedure (Centers for Disease Control and Prevention [CDC], 2010) that is published annually on October 1.

In Hypothesis 1, the key independent variable is defined as “hospital ownership type.” The operational definition of the hospital ownership type refers to the ownership type according to the AHA’s Annual Survey response categories for “ownership type of hospitals” which are: (1) Catholic Church operated; (2) religious non-Catholic; (3) nonprofit non-religious (4) for-profit (investor-owned, individual, partnership, and corporation; and (5) government non-federal (state, county, city, city-county, and hospital district or authority). Dummy variables represented each of the categories. In addition to the key independent variable, I included patient and additional hospital characteristics in the analysis. The patient’s age was operationalized as a continuous variable. The patient’s sex was operationalized as a binary variable with “female” taking the high value. The patient’s race was operationalized as a binary variable with “Black” taking the high value. The patient’s ethnicity was operationalized as a binary variable with “Hispanic” taking the high value. I only included Hispanic ethnicity because of the small numerical prevalence of other ethnicities in the data. The patient’s income was operationalized as a binary variable with patients who resided in zip codes that were considered in the top quartile of median income taking the high value. No other income measure was available

at the patient level. Whether the patient resided in an urban area was operationalized as a binary variable “urban.” Residence in a large metropolitan area with at least 1 million residents was the high value. Both Medicare status and Medicaid status were operationalized as binary variables. Likewise, scheduled admission and emergency status were operationalized as binary variables. The length of the patient’s hospital stay was operationalized as a continuous variable. The hospital’s size was defined as the number of beds in the hospital, and it was operationalized as a continuous variable. The teaching status of a hospital was operationalized with three dummy variables—no, minor, or major teaching status. The rationale for the additional variables as controls was that patients might select into certain types of hospitals based on personal characteristics potentially correlated with the dependent variable or key explanatory variables in either hypothesis.

In Hypothesis 2, the dependent variable was defined as “The total cost from the discharge.” The continuous variable was operationalized by converting the detailed hospital charge data to cost by application of hospital-specific cost-to-charge ratios.

In Hypothesis 2, the key independent variable was defined as “Noncompliance” and operationalized as operationalized Hypothesis 1. To test Hypotheses 3a, 3b, and 3c, the dependent variable was “Noncompliance.” The key independent variables in order were “Black”, “female”, and “age.” These variables were also operationalized in Hypothesis 1.

### 3.5 Analysis

To test Hypothesis 1, I used logistic regression to estimate the likelihood of hospital DNR noncompliance for hospital stays across hospital ownership type (N=9074). For both spatial and time correlation, I tested the model for county and year effects

(Cameron et al., 2011). The statistical test showed that county could influence the model. County can be a proxy for local costs such as, for example, the economic viability of the county hospitals causing them to act in a particular correlated way driven by local economic conditions or local religious climate. I also used robust standard errors to control for heteroscedasticity in the logistic regression. In general there are fewer diagnostic tests available for logistic regression when compare to linear regression. I tested the data for multicollinearity (variance inflation factor and tolerance) and tested for outliers, and leveraging outliers via analysis of residuals. No assumption violations were found in the data.

After I had conducted logistic regression to estimate the likelihood of hospital DNR noncompliance for hospital stays across hospital ownership type, I conducted a post-estimation analysis for marginal predicted probabilities. The advantage of this post-estimation is that it will provide predictions for the probability of noncompliance for the variables in the analysis.

The logistic regression specification was as follows:

$$\text{Odds} = (Y_{\text{CPR}=1}) = e^{(b_0 + b_1\text{Age} + b_2\text{DSched} + b_3\text{DFemale} + b_4\text{DBlack} + b_5\text{DHisc} + b_6\text{DMedicare} + b_7\text{DMedical} + b_8\text{DAcuity} + b_9\text{Beds} + b_{10}\text{Los} + b_{11}\text{DMajorteaching} + b_{12}\text{Minor teaching} + b_{13}\text{DRel-non-Cat} + b_{14}\text{DCatholic} + b_{15}\text{DGov-non-fed} + b_{16}\text{DFor-profit} + b_{17}\text{DHighinc} + b_{18}\text{DUrban} + c\text{county} + e)}$$

To test Hypothesis 2, I used linear regression to estimate the total cost per hospital stay, on average, across DNR compliance (N= 7,285). Multivariate regression analysis is fitting for econometric estimations with continuous dependent variables (Diringer et al., 1999). I included county and year effects because county can be a proxy for local costs. A

statistical test for their significance indicated to include both county and year effects in the analysis. Furthermore, I conducted tests whether the data met the assumption for linear regression analysis (Berry, 1993). The analysis identified and accounted for missing data for the cost variable. The cost model, thus, confined the analysis to observations that included the cost variable; the study population included fewer observations than the ownership model. I checked the data for outliers, which I defined as a value that is at least three standard deviations above or below the mean. I checked whether the error terms were identically and independently distributed. In addition, I constructed normal probability plots. I tested for homoscedasticity (i.e., whether the error variance for the model was constant). Graphs that showed the fitted versus the residual plot were examined. The plot for each year showed heteroskedastic residuals. To support the visual inspection of the plots, I performed both Cook and Weisberg test and White general test for heteroscedasticity. The tests confirmed heteroscedasticity of the residuals. I corrected this problem by using heteroskedasticity-robust standard errors. I checked for individual observations that exert undue influence on the coefficients. To check for the leverage of outliers, a number of diagnostic tests were performed. No significant problems were found. I tested for multicollinearity. No violations were found.

The linear regression specification was as follows:

$$\begin{aligned}
 Y_{\text{cost}} = & b_0 + b_1 D_{\text{CPR}} + b_2 A_{\text{Age}} + b_3 D_{\text{Sched}} + b_4 D_{\text{Female}} + b_5 D_{\text{Black}} + b_6 D_{\text{Hisp}} + b_7 D_{\text{Medicare}} + \\
 & b_8 D_{\text{MediCal}} + b_9 D_{\text{Acuity}} + b_{10} B_{\text{Beds}} + b_{11} L_{\text{Los}} + b_{12} D_{\text{Major-teach}} + b_{13} D_{\text{Minor-teach}} + b_{14} D_{\text{Rel-non-}} \\
 & \text{Cat} + b_{15} D_{\text{Catholic}} + b_{16} D_{\text{Gov-non-fed}} + b_{17} D_{\text{For-profit}} + b_{18} D_{\text{Highinc}} + b_{19} D_{\text{Urban}} + t_{\text{year}} + \\
 & c_{\text{county}} + e
 \end{aligned}$$

I have presented the methodology I used in my dissertation. I detailed the data and study population, the operationalization of the variables in the analyses, and showed the statistical models for the analyses. Chapter 4 will present the results of the hypothesis testing procedure.

## CHAPTER 4: RESULTS

### 4.1 Overview

In this chapter, I present my results in accordance with my general research objectives and subsequent hypotheses, which are to test DNR violations across hospital ownership and cost considerations, and patient characteristics and DNR noncompliance.

### 4.2 Hypothesis 1

The first set of analyses examined the impact of hospital ownership on DNR compliance. I used logistic regression and post-estimation with marginal means, and predictive margins were used to test the hypothesized relationship between hospital ownership and DNR violations. I first conducted the analyses without a county effect variable, and then, further analyzed the data with a county effect control variable to control for spatial correlation (e.g., county can be a proxy for local costs). Table 3 reports the odds ratios for logistic regression estimates for the effect of hospital ownership on DNR compliance. The results show that the model versus the intercept-only model is significant overall [(N = 9,101), Wald chi-square (18) = 329.91, probability > chi-square = 0, log pseudo-likelihood = -5214.5524, pseudo  $R^2 = 0.0325$ ]. First, the results show the main effects of the binary predictor variables for the five hospital ownership types. There are five categories of hospital ownership types in the model. One of the hospital ownership types, non-religious-nonprofit hospital ownership, served as the reference category. The results compare the odds of a patient with a standing DNR order receiving

CPR in each hospital ownership category with the odds of a patient with a hospital DNR receiving CPR in the reference category. The results show an odds ratio of 1.38 for the variable—*for-profit hospitals*. The odds ratio of 1.38 suggests that *for-profit hospital ownership* is associated with a 38 percent higher likelihood of resuscitation despite a patient's DNR order when compared with the reference group of *non-religious nonprofit hospitals*. Next, the results show an odds ratio of 1.37 for the variable—*Catholic hospital*. The odds ratio of 1.37 suggests that *Catholic hospital ownership* is associated with a 37 percent higher likelihood of resuscitation despite a patient's DNR order when compared with the reference group of *non-religious nonprofit hospitals*. Next, the results show an odds ratio of .534 for the variable—*religious non-Catholic hospital*. The odds ratio of .534 suggests that *religious non-Catholic hospital ownership* is associated with a 47 percent lower likelihood of resuscitation despite a patient's DNR order when compared with the reference group of *non-religious nonprofit hospitals*. The odds ratio of 1.00 for *non-federal government hospitals* suggests that *non-federal government hospitals* are not associated with DNR noncompliance. In light of the expected result (i.e., Hypothesis 1), the findings verify that *Catholic hospital ownership* increases the likelihood of DNR noncompliance. Further, the results show an odds ratio of 1.00 for the variable—*number of hospital beds*. The odds ratio of 1.00 suggests that the size of the hospital is not associated with DNR noncompliance. The results showed an odds ratio of .803 for the variable—*major teaching hospitals*. The odds ratio of .803 suggests that *major teaching hospitals* are associated with a 20 percent lower likelihood of resuscitation despite a patient's DNR order.

Further analysis of the impact of hospital ownership on DNR compliance with a county effect control variable shows only a slight difference in the model statistics [(N = 9,074), Wald chi-square (63) = 432.35, probability > chi-square = 0, log pseudo-likelihood = -5140.239, pseudo  $R^2 = 0.0447$ ]. Following the addition of a county dummy to control for county effects, the model had a slightly higher pseudo  $R^2$  than the model without the county effects, thus explaining slightly more of the variance in the dependent variable. At the same time, the county effect variable did not shift the sign of the odds ratios for any of the independent variables (i.e., positive associations did not become negative or vice versa). Controlling for county effects lowered the odds ratio for the variable—*for-profit hospitals*—from of an odds ratio of 1.38 to an odds ratio of 1.13. The new odds ratio suggests that when controlling for county effects *for-profit hospital ownership* is reduced from a 38 percent higher likelihood to a 13 percent higher likelihood of resuscitation despite a patient's DNR order. The outcome means that county control reduces the effect of *for-profit hospital ownership* on DNR noncompliance. The odds ratios for the variables—*Catholic hospital ownership*, *religious non-Catholic hospital ownership*, and *major teaching status of hospital*—remained approximately the same. The outcome suggests that for these variables, county location of the hospitals does not confound the results. Table 3 shows the logistic regression estimates for the dependent variable DNR noncompliance with and without the inclusion of county dummies to control for spatial correlations.

Table 3: Logistic regression estimates of the effect of hospital ownership on DNR noncompliance (robust standard errors are in parentheses).

	Odds Ratio	95% CI		Odds Ratio	95% CI	
		(1)			(2)	
Hospital Characteristics						
Religious non-Catholic	.534 (.092)	.380	.749	.578 (.109)	.399	.836
Catholic	1.372 (.087)	1.211	1.554	1.378 (.098)	1.198	1.585
Govt. non-federal	.891 (.066)	.770	1.031	.941 (.079)	.798	1.109
For-profit	1.381 (.104)	1.192	1.601	1.134 (.093)	.965	1.332
Number of beds	1.001 (.00~)	1.000	1.001	1 (.00~)	1	1
Minor Teaching	.939 (.057)	.833	1.058	.907 (.059)	.798	1.029
Major Teaching	.803 (.087)	.649	.993	.865 (.103)	.685	1.092
Patient Characteristics						
Age	.965 (.003)	.958	.970	.965 (.003)	.959	.971
Length of Hospital Stay	.997 (.002)	.993	1.001	.997 (.002)	.993	1
Female	.872 (.042)	.794	.960	.869 (.042)	.790	.957
Black	1.147 (.114)	.945	1.394	1.236 (.126)	1.013	1.508
Hispanic	1.15 (.079)	1.005	1.316	1.118 (.079)	.974	1.284
Medicare	.961 (.083)	.811	1.138	.978 (.086)	.823	1.162
MediCal	1.158 (.162)	.881	1.523	1.173 (.168)	.886	1.552
Scheduled Hospital Stay	.789 (.100)	.616	1.012	.818 (.105)	.636	1.052
Emergency Room Adm.	1.472 (.125)	1.246	1.740	1.513 (.131)	1.277	1.793
Urban Patient ZIP Code	1.297 (.780)	1.154	1.460	.908 (.141)	.670	1.230

Table 3: (continued)

High Income	1.117 (.063)	1.000	1.248	1.063 (.067)	.940	1.202
County Dummies Included	No			Yes		
Number of Observations	9101			9074		
Pseudo R <sup>2</sup>	.0325			.0447		

Note. The dependent variable is DNR noncompliance in California Hospitals 2006-2006. The reference category for hospital ownership is nonprofit non-religious hospitals. The reference category for hospital teaching status is non-teaching hospital. Odds Ratio =  $\exp(\beta)$ . 95% Confidence Interval =  $\exp(\beta \pm 1.96 \cdot \text{std error})$ .

I will now turn to the post-estimations with marginal means and predictive margins, which has the advantage of giving predictions of the effect of hospital ownership on the probability of resuscitation despite a DNR order by computing margins. Table 3 presents the predicted probabilities for noncompliance for each predictor in the model along with the confidence intervals. The results show that the predicted probability for noncompliance in Catholic hospital ownership is .331. The result suggests that in a Catholic hospital, there is about a 33 percent probability that a patient will receive resuscitation after cardiac arrest despite the DNR order. The results show that the predicted probability for DNR noncompliance in a for-profit hospital is .300. The result suggests that in a for-profit hospital, there is about a 30 percent probability that a patient will receive resuscitation after cardiac arrest despite the DNR order. The results show that the predicted probability for noncompliance in a non-federal government hospital is 0.269, which suggests that in a non-federal government hospital, there is about a 27 percent probability that a patient will receive resuscitation after cardiac arrest despite the DNR order. The results show that the predicted probability for noncompliance in a non-Catholic religious hospital is 0.188 i.e., the result suggests that in a non-Catholic religious

hospital, there is about a 19 percent probability that a patient will receive resuscitation after cardiac arrest despite the DNR order. In light of the expected result (i.e., hypothesis 1), the findings verify that among hospital ownership types, Catholic hospital ownership is the strongest predictor for DNR noncompliance, followed by for-profit hospital ownership. Unlike, Catholic and for-profit hospitals, non-Catholic religious hospitals are not a predictor for DNR noncompliance. These results suggest that there is an association between hospital ownership and DNR noncompliance. Specifically, the findings validate the expected result that Catholic hospital ownership increases the likelihood of DNR noncompliance.

Table 4: Margins ownership model: predicting the probability for CPR with DNR for each of the hospital ownership categories

		Delta-Method						
		Margin	Std. Err.	z	p > z	95% CI		
Female		0	.2954784	.0069045	42.65	0	.280946	.308011
		1	.2673476	.0062317	42.90	0	.255134	.279562
Black		0	.2773422	.0047545	58.33	0	.268024	.286661
		1	.3195343	.0200836	15.91	0	.280171	.358898
Hispanic		0	.2767869	.0050020	55.34	0	.266983	.286591
		1	.2987813	.0128009	23.34	0	.273692	.323871
Medicare		0	.2838885	.0154249	18.40	0	.253656	.314121
		1	.2794527	.0050848	54.96	0	.269487	.289419
MediCal		0	.2786808	.0047495	58.68	0	.269372	.28799
		1	.3094255	.0280125	11.05	0	.254522	.364329
Scheduled		0	.2825506	.0048795	57.91	0	.272987	.292114
		1	.2451631	.0216642	11.32	0	.202702	.287624
Emergency		0	.2184139	.0125724	17.37	0	.193772	.243055
		1	.2930254	.0054904	53.37	0	.282264	.303786
Urban Patient								

Table 4: (continued)

	0	.2940027	.0235435	12.49	0	.247858	.340147
	1	.2755981	.0084514	32.61	0	.259034	.292163
High Income	0	.2770833	.0055295	5.11	0	.266246	.287921
	1	.2885508	.0101354	28.47	0	.268686	.308416
Religious non-Catholic	0	.2824722	.0046901	6.23	0	.27328	.291665
	1	.1881347	.0273961	6.87	0	.134439	.241830
Catholic	0	.2671597	.0053224	5.20	0	.256728	.277591
	1	.3308078	.0127444	25.96	0	.305829	.355786
Government non-federal	0	.2817460	.0051043	55.20	0	.271742	.29175
	1	.2693636	.0143247	18.80	0	.241288	.29744
For-Profit	0	.2764745	.0051305	53.89	0	.266419	.286530
	1	.3007011	.0147487	2.39	0	.271794	.329608
Minor Teaching	0	.2845420	.0055736	51.05	0	.273618	.295466
	1	.2669108	.0101109	26.40	0	.247094	.286728
Major Teaching	0	.2824648	.0050303	56.15	0	.272606	.292324
	1	.2554485	.0201141	12.70	0	.216026	.294871
Age	65	.3964897	.012191	32.52	0	.3725959	.420384
	70	.3561975	.0087283	40.81	0	.3390903	.373305
	75	.3177326	.0059757	53.17	0	.306020	.329445
	80	.2814939	.0046848	6.09	0	.272312	.290676
	85	.2477808	.0052294	47.38	0	.237531	.258030
	90	.2167894	.0066220	32.74	0	.203811	.229768
	95	.1886156	.0080209	23.52	0	.172895	.204336
	100	.1632653	.0091361	17.87	0	.145359	.181172
Length of Stay (days)	1	.2831837	.0051206	55.3	0	.273148	.29322
	6	.2803597	.0046005	60.94	0	.271343	.289377
	21	.2719861	.0072761	37.38	0	.257725	.286247
	36	.2637628	.0122174	21.59	0	.239817	.287708
	50	.2562259	.0170513	15.03	0	.222806	.289646

Table 4: (continued)

Number of Beds						
10	.2642995	.0115953	22.79	0	.241573	.287026
160	.2721925	.0070264	38.74	0	.2584211	.285964
310	.2802238	.0045964	60.97	0	.271215	.289233
460	.2883904	.0074878	38.51	0	.2737146	.303066
610	.2966891	.0126672	23.42	0	.2718618	.321516

#### 4.3 Results Hypothesis 2

The second set of analyses examined the effect of DNR noncompliance on the total cost from the discharge, on average. I used OLS linear regression to test the hypothesized relationship between DNR noncompliance and the total cost from the discharge, on average. I first conducted the analysis without including county and year variables and then, further analyzed the data controlling for county and year because a statistical test for their significance indicated to include both county and year effects in the analysis. Table 5 reports the coefficients for the OLS linear regression estimates of the effect of hospital DNR noncompliance on the total cost from the discharge, on average. The results show that overall, the cost model versus the intercept-only model is significant [(N = 7285),  $F(19, 7265) = 28.22$ , probability > chi-square = 0,  $R^2 = 0.4743$ ]. The linear regression results show that the discharge cost for a patient with a DNR order who was resuscitated after cardiac arrest despite the DNR order was \$3,602.25 higher on average than the discharge cost for a DNR patient who was not resuscitated after cardiac arrest.

Further analysis, including county and year controls, of the effect of hospital DNR noncompliance on the total cost from the discharge, on average shows only a slight difference in the model statistics [(N = 7285),  $F(72, 7212) = 125.65$ , probability > chi-square = 0,  $R^2 = 0.5023$ ]. Including county and year effects, the analysis shows that the

discharge cost for a patient with a DNR order who was resuscitated after cardiac arrest despite the DNR order was \$3,899.74 higher on average than the discharge cost for a DNR patient who was not resuscitated after cardiac arrest. The difference suggests that without the county and the year controls, the results were an underestimation of the difference in total cost per discharge, on average. In an analysis that involves monetary values, it is customary to adjust for the current dollar value. However, I did not make the adjustments because I used data pooled across multiple years.

Table 5: Linear regression estimates of the effect of hospital DNR noncompliance on the total cost from the discharge, on average (robust standard errors are in the parentheses).

	Coefficient	95% CI		Coefficient	95% CI	
		(1)			(2)	
CPR	3602.25 (544.71)	2534.47	4670.03	3899.74 (537.19)	2846.70	4952.79
Age	-297.51 (35.72)	-367.53	-227.49	-307.30 (35.00)	-375.92	-238.68
Length of Stay	1640.52 (236.14)	1177.61	2103.43	1628.89 (234.48)	1169.23	2088.54
Female	-105.95 (545.53)	-212.34	18.45	-1034.71 (544.00)	-2101.11	31.69
Black	-2198.68 (1454.53)	-5049.98	652.62	-3011.82 (1405.89)	-5767.77	-255.88
Hispanic	-1323.26 (803.38)	-2898.12	251.60	-744.81 (791.07)	-2295.55	805.93
Medicare	-37.57 (1028.97)	-2387.64	1646.50	-390.35 (1024.80)	-2399.27	1618.56
MediCal	-4019.43 (2503.06)	-8926.16	887.31	-4208.61 (2400.15)	-8913.60	496.39
Scheduled Stay	655.56 (2516.29)	-4277.11	5588.22	795.7071 (2581.89)	-4265.55	5856.97
Emergency Admission	-1879.22 (1322.89)	-4472.48	714.03	-1324.758 (1328.33)	-3928.68	1279.17
Urban Patient	531.23 (584.59)	-614.74	1677.20	-4246.55 (1977.00)	-8122.05	-371.04
High Income	-209.01	-3241.61	-938.41	-157.05	-1400.98	1086.89

Table 5: ( continued)

	(587.46)			(634.57)		
Number of Beds	7.75	2.13	13.36	6.02	-0.22	12.26
	(2.86)			(3.18)		
Religious non-Catholic	-2920.59	-4984.61	-856.57	-6719.69	-9427.98	-4011.39
	(1052.91)			(1381.58)		
Catholic	-499.90	-1622.08	622.28	-256.22	-1498.54	986.10
	(572.46)			(633.74)		
Government nor federal	-1512.54	-3534.32	509.23	-3374.29	-5685.96	-1062.63
	(1031.37)			(1179.24)		
For-profit	-1639.80	-2978.19	-301.41	-1958.04	-3488.43	-427.66
	(682.75)			(780.70)		
Minor Teaching	1722.23	414.56	3029.90	3369.74	1880.17	4859.30
	(667.08)			(759.87)		
Major Teaching	8157.4	4231.19	12083.60	10041.47	4960.00	15122.95
	(2002.87)			(2592.20)		
Constant	34458.74	27259.04	41658.43	45773.10	38581.27	52964.93
County Dummies Included	No			Yes		
Year Dummies Included	No			Yes		
Number of Observations	7285			7285		

#### 4.4 Results Hypothesis 3

The logistic regression and post-estimation with marginal means and predictive margins, which I used to test the previous hypotheses, also provided the results to examine the relationship between patient characteristics and DNR noncompliance. Table 3 reports the odds ratios for logistic regression estimates of the effect of patient characteristics on DNR noncompliance. The results show an odds ratio of 1.15 for the

variable—Hispanic. The odds ratio of 1.15 suggests that Hispanic is associated with a 15 percent higher likelihood of resuscitation after cardiac arrest despite a DNR order when compared with non-Hispanics. The results show an odds ratio of 1.472 for the variable—emergency room admission. The odds ratio of 1.472 suggests that emergency room admissions are associated with a 47 percent higher likelihood of resuscitation after cardiac arrest despite a patient’s DNR order when compared with non-emergency room admissions. The results show an odds ratio of 1.297 for the variable—patients who reside in urban zip codes. The odds ratio of 1.297 suggests that patients who reside in urban zip codes are associated with a 30 percent higher likelihood of resuscitation after cardiac arrest despite a DNR order when compared with patients who do not reside in urban zip codes. The results show an odds ratio of 1.117 for the variable—patients who reside in the top quartile income zip codes. The odds ratio of 1.117 suggests that patients who reside in the top quartile income zip codes are associated with a 12 percent higher likelihood of resuscitation after cardiac arrest despite a DNR order, when compared with patients who do not live in the top quartile income zip codes. At the same time, however, the results show an odds ratio of .872 for the variable—female. The odds ratio of .872 suggests that female patients are associated with a 13 percent lower likelihood of resuscitation after cardiac arrest despite a DNR order, when compared with males. In light of the expected result for hypothesis 3b, the finding verifies that female is associated with a lower likelihood of resuscitation after cardiac arrest despite a DNR order. The results show an odds ratio of 0.965 for the variable—age. The odds ratio of 0.965 for age suggests that for each additional year of a patient’s age, the odds for resuscitation after cardiac arrest despite a DNR order decrease by 3.5 percent. In light of the expected result

for hypothesis 3c, the finding verifies that age is associated with decreasing likelihood of resuscitation after cardiac arrest despite a DNR order. The results show an odds ratio of 1.15 for the variable—Black. The odds ratio of 1.15 suggest that Black is associated with a 15 percent higher likelihood of resuscitation after cardiac despite a DNR order, when compared with Whites. The result for Black has to be interpreted with caution because the result is statistically not significant. The additional analysis of the impact of patient characteristics on DNR compliance with a county control variable shows a slightly different outcome for some variables. At the same time, the county control did not shift the sign of the odds ratios for any of the patient characteristics (i.e., positive associations did not become negative or vice versa). Controlling for county effects lowered the odds ratio for the variable—Hispanic—from of an odds ratio of 1.15 to an odds ratio of 1.12. The new odds ratio of 1.12 suggests that when controlling for county effects, Hispanic is associated with a 3 percent reduction from a 15 percent to a 12 percent higher likelihood of resuscitation after cardiac arrest despite a patient’s DNR. The results for patients who live in urban zip codes and patients who live in the top quartile income zip codes became insignificant, which could be expected with the addition of the county control. At the same time, the results show a new statistically significant odds ratio of 1.24 for the variable—Black. This outcome suggests that Black is associated with a 24 percent higher likelihood of resuscitation after cardiac arrest despite a DNR order. In light of the expected result for hypothesis 3a, the finding verifies that Black increases the likelihood of resuscitation after cardiac arrest despite a DNR order. The odds ratios for the variables—emergency room admission, female, and age—remained approximately the

same. The results suggest that for these variables, county location of the hospitals does not confound the results.

As in hypothesis 1, I will now turn to the post-estimations with marginal means and predictive margins, which has the advantage of giving predictions of the effect of patient characteristics on the probability of resuscitation after cardiac arrest despite a DNR order by computing margins. Table 3 presents the predicted probabilities for resuscitation after cardiac arrest despite a DNR order for each predictor in the model along with the confidence intervals. The results show that the predicted probability for resuscitation after cardiac arrest despite a DNR order is .299 for Hispanics. The result suggests that for Hispanics, there is a 30 percent probability that a patient will receive resuscitation after cardiac arrest despite the DNR order. For non-Hispanics, it is only slightly lower at 28 percent (.277). The results show that the predicted probability for resuscitation after cardiac arrest despite a DNR order is .319 for Blacks. The result suggests that for Blacks, there is a 32 percent probability that a patient will receive resuscitation after cardiac arrest despite the DNR order. For Whites, it is slightly lower at 28 percent (.277). The results show that the predicted probability for resuscitation after cardiac arrest despite a DNR order is .293 for emergency room admissions. The result suggests that for emergency room admissions, there is a 29 percent probability that a patient will receive resuscitation after cardiac arrest despite the DNR order. For non-emergency room admissions, it is 22 percent (.218). At the same time, the results show that the predicted probability for resuscitation after cardiac arrest despite a DNR order is .267 for females. The result suggests that for females, there is about a 27 percent probability that a patient will receive resuscitation after cardiac arrest despite the DNR

order. For males, it is slightly higher at 30 percent (.295). The results show that the predicted probability for resuscitation after cardiac arrest despite a DNR order is about 3.5 percent lower for each additional five years of age. Age also affected the likelihood of resuscitation. For example, for a 65-year-old patient the predicted probability of noncompliance was 40 percent, for a 75-year old was 31 percent, for a 95-year old it was 18 percent, but even for a 100-year old patient the probability for resuscitation with a DNR order was still 16 percent. The result suggests that the older the patient, the lower the probability for resuscitation after cardiac arrest despite a DNR order. These results suggest that there is an association between patient characteristics and DNR noncompliance. Specifically, the findings validate the expected result that the predicted probability of noncompliance is higher for Blacks and decreases with the age of the patient. The findings also validate the expected results that gender affects the probability of noncompliance.

#### 4.5 Summary of Key Findings

In this chapter, I presented the results of my analysis. Here is a recap of the key findings. Overall, the results show that approximately 28 percent of patients with a standing DNR were resuscitated after cardiac arrest despite the DNR order.

##### Hypothesis 1 Key Findings:

The results show that for-profit hospital ownership is associated with a 38 percent higher likelihood of resuscitation despite a patient's DNR order when compared with the reference group of non-religious-nonprofit hospitals [OR=1.38]. Catholic hospital ownership is associated with a 37 percent higher likelihood of resuscitation despite a patient's DNR order when compared with the reference group of non-religious-nonprofit

hospitals [OR=1.37]. At the same time, the results show that religious non-Catholic hospital ownership is associated with a 47 percent lower likelihood of resuscitation despite a patient's DNR order when compared with the reference group of non-religious-nonprofit hospitals [OR=0.534]. Further analysis with a county control variable shows that for-profit hospital ownership is associated with a 13 percent higher likelihood of resuscitation despite a patient's DNR order [OR=1.13]. This outcome suggests that county control reduces the effect of for-profit hospital ownership on DNR noncompliance. For Catholic hospital ownership, religious non-Catholic hospital ownership, and the major teaching status of hospital, the results did not change, suggesting that for these variables, county location of the hospitals does not confound the results. In light of the expected result (i.e., hypothesis 1), the findings verify that among hospital ownership types, Catholic hospital ownership is the strongest predictor for DNR noncompliance, followed by for-profit hospital ownership. Unlike, Catholic and for-profit hospitals, non-Catholic religious hospitals are not a predictor for DNR noncompliance. These results suggest that there is an association between hospital ownership and DNR noncompliance. Specifically, the findings validate my hypothesis that Catholic hospital ownership increases the likelihood of DNR noncompliance. A surprising result is the close predictive margins for DNR noncompliance between Catholic and for-profit hospitals, which suggest that Catholic hospitals have outcomes that are similar to for-profit hospitals, but have outcomes that are dissimilar from other religious hospitals.

#### Hypothesis 2 Key Findings:

The linear regression results show that the discharge cost for a patient with a DNR order who was resuscitated after cardiac arrest despite the DNR order was \$3,602.25 higher on

average than the discharge cost for a DNR patient who was not resuscitated after cardiac arrest. Including county and year effects, the analysis shows that the amount was \$3,899.74 higher on average. The difference in these results suggests that without the county control variable and the year of the hospital stay, the analysis underestimated the difference in total cost per discharge, on average. The key finding suggests that noncompliance with DNR orders may add significant hospital cost related to the use of life-prolonging technology.

#### Hypothesis 3 Key Findings:

Overall, the findings support my hypothesized association between patient characteristics and DNR noncompliance. Specifically, the findings validate the expected result for race, gender, and age. The findings for Black with added country control suggest that Black patients are associated with a 24 percent higher likelihood [OR=1.24] of resuscitation after cardiac arrest despite a DNR order. Without the county control variable, the analysis underestimated the relationship between Black and DNR noncompliance. In light of the expected result for hypothesis 3a, the finding verifies that Black increases the likelihood of DNR noncompliance. At the same time, the results suggest that female patients are associated with a 13 percent lower likelihood [OR=1.13] of resuscitation after cardiac arrest, when compared with males. In light of the expected result for hypothesis 3b, the finding verifies that female sex is associated with a lower likelihood of DNR noncompliance. The findings also support the hypothesized relationship between age and decreasing likelihood of DNR noncompliance. In addition, the results show that Hispanic is associated with a 15 percent higher likelihood [OR=1.15] of resuscitation after cardiac arrest despite a DNR order when compared with non-Hispanics. The post-estimations of

the probability of resuscitation after cardiac arrest despite a DNR order suggest that for Blacks, there is a 32 percent probability that a patient will receive resuscitation after cardiac arrest despite the DNR order. At the same time, the results show that the predicted probability for resuscitation after cardiac arrest despite a DNR order is .267 for females. The result suggests that for females, there is a 27 percent probability that a patient will receive resuscitation after cardiac arrest despite the DNR order. The results show that the predicted probability for resuscitation after cardiac arrest despite a DNR order is approximately 3.5 percent lower for each additional five years of age. Age also affected the likelihood of resuscitation. For example, for a 65-year-old patient the predicted probability of noncompliance was 40 percent, for a 75-year old was 31 percent, for a 95-year old it was 18 percent, but even for a 100-year old patient the probability for resuscitation with a DNR order was still 16 percent. The result suggests that the older the patient, the lower the probability for resuscitation after cardiac arrest despite a DNR order. Moreover, the result suggests that for Hispanics, there is a 30 percent probability that a patient will receive resuscitation after cardiac arrest despite the DNR order. Taken together, these results suggest that there is an association between patient characteristics and DNR noncompliance. Specifically, the findings validate the expected result for race, gender, and age.

## CHAPTER 5: DISCUSSION

### 5.1 Overview

This chapter is divided into three sections. In the first section, I interpret and discuss the findings from the ownership analysis, cost analysis, and individual characteristics. I also address the limitations of my data. In the second section, I discuss the ethical, theoretical, and policy implications of my findings. In the final section, I discuss how the findings may serve as a base for future studies, and conclude my dissertation.

As stated in the introduction, the dissertation's main aim was to test three hypotheses to assess how well institutional framework can predict compliance with DNR orders across hospital ownership, and whether DNR violations are associated with higher discharge costs on average. The third hypothesis tests relationships between patient characteristics and DNR compliance.

H1: Catholic hospital ownership increases the likelihood of DNR noncompliance.

H2: DNR noncompliance increases the total cost from the discharge, on average.

H3: Patient characteristics affect the likelihood of DNR noncompliance.

This hypothesis was followed by three sub-hypotheses:

H3a: Black patients are more likely to experience DNR noncompliance.

H3b: Females differ from males in the likelihood of DNR noncompliance

H3c: Age increases the likelihood of DNR noncompliance.

As mentioned in the literature review, my dissertation contributes quantitative data to extend institutional frameworks that examine institutional influences on organizational outcomes (Meyer & Rowan, 1977; DiMaggio & Powell, 1983; Scott & Backman, 1990; Scott & Meyer, 1983). My findings broaden institutional approaches to end-of-life care decision-making, specifically DNR order compliance. They also inform literature in the area of law and society by testing variations in organizational conformity to legal mandates (Edelman, 1990; 1992; Scheid-Cook, 1992; Edelman & Suchman, 1997, and Scheid & Suchman, 2001; Suchman & Edelman, 1996). Furthermore, my dissertation contributes to research that investigates competing institutional and technological forces in Catholic hospitals and their association with health outcomes.

To applied audiences, my dissertation provides data on (1) the frequency of noncompliance with DNR orders in hospitals; (2) the variation of DNR noncompliance across hospital ownership; (3) the relationship between DNR noncompliance and discharge costs; and, (4) the relationship between DNR noncompliance and patient characteristics.

## 5.2 Interpretation of Findings and Discussion

My dissertation set out with the aim to measure whether hospital ownership affects noncompliance with DNR orders. The most striking result to emerge from the data is that regardless of hospital ownership, slightly more than one-quarter (28%) of patients in the study population—individuals 65 years of age or older with a standing DNR order—did receive resuscitation after cardiac arrest despite the DNR order.

The substantial number of DNR violations across all hospital ownership types confirms individual case studies, self-reported physician interviews, and the many

anecdotes and testimonies that exist on DNR violations in hospitals (Berlin, 2000; Gawande, 2014; Kaufman, 2005). My findings corroborates surveys, which reported that approximately 20 percent of health professionals would treat a patient contrary to the patient's instructions and defibrillate a patient with a clear DNR order (Gallegos, 2012; Mirarchi et al., 2012). While limited to California, I substantiate that hospitals may not always follow the PSDA, which supports previous observations by legal scholars (Pope, 2013) and medical ethicists (Clarke, 2009). Furthermore, my findings support institutional frameworks that suggest that organizational decision-makers when faced with ambiguous, contested, and symbolic mandates are responsive to normative appeals and cognitive framings (Scheid & Suchman, 2001). The finding broadens Scheid and Suchman's (2001) work on the enactment of the ADA across businesses and applies it to the PSDA as such—the practical meaning of the PSDA depends on the ways in which the organizations interpreted and enacted the legal mandate of patient self-determination (paraphrasing Scheid and Suchman, 2001, also see; Brodtkin, 1990; Matland, 2005).

The high occurrence of DNR noncompliance also confirms the association between professional norms and unwanted life-sustaining treatment, which is discussed in detail by legal scholars (Pope, 1999, 2010, 2013). According to Pope (2013), professional norms in hospitals could potentially explain the finding that physicians are uncertain about the categorical applicability of DNR orders. Pope also argues that physicians may face surrogates that demand clinicians' to overwrite a patient's DNR order. Additional professional norms are a vitalistic philosophy of medicine, conscience-based objection, and financial incentives that may explain the findings. For example, clinicians appear to be frequently uncertain of the applicability of advance directives

when a cardiac arrest is iatrogenic, which means it is caused by medical intervention (Clemency et al., 1993; Redman et al., 2012; Schwarze et al., 2005). In these cases, clinicians thus may override a DNR order. Data on the frequency of iatrogenic arrest is not shown in my data thus I do not know whether an iatrogenic arrest, in some way, influenced the high occurrence of DNR noncompliance. Clinicians are also frequently unaware of the existence of their patients' advance directives (Johnson, Baranowski-Birkmeier, & O'Donnell, 1995). This unawareness could be rooted in professional norms of hospitals that favor prolonging life (Scott & Backman, 1990). Specifically, in hospitals where the norm to prolong life is strong, clinicians may not put forth the same effort to check for existing DNR orders as in hospitals where the norm to prolong life is weak. Professional norms in hospitals regarding surrogate decision-making could also potentially explain my findings. When surrogates, for example, demand a clinician to overwrite a DNR order, the surrogates' demands will arguably find more support in hospitals that favor prolonging life than in hospitals that do not. My data, however, cannot control for surrogate decision-making. Thus, I cannot infer that surrogacy affects my result.

Paternalism may play a role in DNR noncompliance (Pope, 2013) and could potentially explain the findings. Whether respect for patient autonomy or professional beneficence should have primacy when clinicians decide to honor or not to honor a DNR order is a central problem in medical ethics. Physicians traditionally have controlled this calculation. Thus, paternalism—the doctor knows best—produces a conflict between beneficence and autonomy or resolves it. Moreover, existing structural determinants such as, for example, specific treatment protocols may limit the range of choices that physician

perceive as rational or prudent (DiMaggio & Powell, 1983). Along the same vein, Freidson (1970) discerns between physicians technical autonomy such as the content of their work and social and economic autonomy such as the terms of their work. For example, physicians may think that the patient is not sufficiently ill to warrant the DNR order (Pope, 2013). It is also possible, according to Pope, that a clinician will practice a vitalistic philosophy of medicine. In that case, the clinician believes in a life force that is beyond the sum of the patient's chemical processes. The investigators of the SUPPORT study Teno et al., 1998 had found earlier that physicians frequently leaned upon professional beneficence when they made decisions about prolonging treatment (see Dr. Yonessi's statement in Chapter 2 on p. 76). According to Pope (2013), clinicians may think that administering unwanted life-sustaining treatment entails little legal risk. Conscience clauses grant physicians permission to deviate from patient instructions for professional and religious reasons. Moreover, conscience clauses apply to not only individual physicians but also the entire hospital. In addition to conscience clauses, financial incentives to administer unwanted life-sustaining treatment could have influenced my outcome, as overtreatment is well-reimbursed (Eappen et al., 2013).

### 5.2.1 Hypothesis 1 Interpretation of Findings and Discussion

I will now turn to the interpretation and discussion of the findings for the key independent variable—hospital ownership—in Hypothesis 1. Catholic hospitals and for-profit hospitals are the most likely to resuscitate patients despite a DNR order. For-profit hospital ownership is associated with a 38 percent higher likelihood of resuscitation despite a patient's DNR order when compared with the reference group of non-religious-nonprofit hospitals. Subsequently, Catholic hospital ownership is associated with a 37

percent higher likelihood of resuscitation despite a patient's DNR order when compared with the reference group of non-religious-nonprofit hospitals. The almost identical likelihood of DNR noncompliance between for-profit and Catholic hospitals is significant and unexpected. At the same time, religious non-Catholic hospitals are the least likely to resuscitate patients with a DNR order. Non-Catholic religious hospital ownership is associated with a 47 percent lower likelihood of resuscitation. The findings support the argument that Catholic hospitals have a unique structural environment. In addition, as mentioned in Chapter 3, the county can be a proxy for local costs. Specifically, the economic viability of the county hospitals can cause them to act in a particular correlated way driven by local economic conditions or local religious climate. Further analysis with a county control variable reduced the likelihood of for-profit-hospital ownership to a 13 percent higher likelihood of noncompliance and moves for-profit into second place after Catholic hospital ownership. Therefore, the county in which the hospital is located appears to play a role on some level. Overall, these results suggest that there is an association between hospital ownership and DNR noncompliance. Catholic hospital ownership is the strongest predictor for DNR noncompliance, followed by for-profit hospital ownership. Unlike Catholic and for-profit hospitals, non-Catholic hospitals are not a strong predictor for DNR noncompliance. A surprising result is the predictive margins, which compute the predicted marginal effect of the key independent variable by setting all other variables in the model to their mean values. The predictive margins for DNR noncompliance between Catholic and for-profit hospitals suggest that Catholic hospitals have outcomes that are similar to for-profit hospitals, but have outcomes that are dissimilar from other religious hospitals. The findings suggest that the structural

differences and similarities between Catholic hospitals and hospitals with other types of ownership including treatment protocols affect DNR noncompliance. Moreover, the findings suggest that there exist structural determinants of the range of choices that physicians perceive as rational or prudent (DiMaggio & Powell, 1983). In Catholic hospitals, the Ethical and Religious Directives for Catholic Health Care Services may create an environment that makes life-prolonging treatment seem rational. Similarly, at for-profit hospitals, the norm of profit maximizing also makes life-prolonging treatment seem rational.

My key finding of variation in DNR compliance across hospital ownership supports institutional models of organizational decision-making (DiMaggio & Powell; Rowan & Meyers, 1977; Scott & Powell, 1983). The results support Scott and Backman's (1990) argument about the interplay of technical and institutional environments that surface, specifically, in medical ethics. Technical processes focus on the efficient outcomes (i.e., cost), at the same time, institutional beliefs determine which outcomes the hospital pursues and that the preeminent outcome in the U.S. is prolonging life. My findings also support research that examines Catholic hospitals' responses to competing institutional and technological environments (White, 2000, 2003). What is interesting in this data is that Catholic hospitals appear to behave similarly to for-profit hospitals, which have the second highest predicted probability that a patient with a standing DNR order has a resuscitation code in their discharge record. The results are in part consistent with previous research that suggests an association between hospital characteristics and the writing of DNR orders within 24 hours (Zingmond & Wenger, 2005). Specifically, Zingmond and Wenger's finding that the odds of having early DNR orders written were

significantly lower in for-profit versus nonprofit hospitals appears to provide some support for the conceptual premise that for-profit hospitals are more inclined to use life-sustaining treatment. However, Zingmond and Wenger (2005) did not parse out differences between nonprofit non-religious hospitals, Catholic hospitals, and religious non-Catholic hospitals. My findings suggest that nonprofit non-religious hospitals and religious non-Catholic hospitals are less inclined to use life-sustaining treatment when compared to Catholic hospitals. Unexpectedly, Catholic hospitals behave more like for-profit hospitals than like other religious hospitals or nonprofit non-religious hospitals. My results show support for Scott and Backman (1990), who expect varying organizational responses to medical ethics. The researchers argue that there are three categories in medical ethics—the development of new medical technologies, the organizational changes in the hospital sector (e.g., the rise of investor own hospitals), and the change in pay structure for physicians. My results support the idea that the desired outcome to prolong life appears to be at the juncture of these three categories. However, the findings suggest a fourth category—structural differences related to treatment protocols engrained in institutional beliefs. Ostensibly, Catholic hospitals and for-profit hospitals are the most likely to resuscitate patients despite a DNR order. At the same time, they may generate the same ends but through different means (i.e., theological versus economic). Alternatively, the findings support Reich (2014) who argues that “Paradoxically this patina of spiritual care allowed the doctors at [the Catholic hospital] to behave as entrepreneurs: their professional role merged almost seemingly with their role as economic actors” (p. 14). In Reich’s argument, the motivations for DNR violations in Catholic hospitals and for-profit hospitals alike would be economical. At the same time, I

am not convinced that the motivations for DNR violations in Catholic hospitals are purely economical. I argue that theoretical perspectives on law and organizations can explain the motivations of Catholic hospitals better. Catholic hospitals appear to be a mix of wealth-maximizers and cultural rule-followers and see the law as a “system of moral principles, scripted roles, and sacred symbols” (Edelman & Suchman, 1997, p. 482).

My results inform studies that question organizations’ ritual conformity (isomorphism) to legal mandates (Scheid-Cook, 1992; Scheid & Suchman, 2001), which suggests that the practical meaning of the law depends on the ways in which the organizations interpret and enact the legal mandate of patient self-determination (paraphrasing Scheid & Suchman, 2001). My results support that hospital ownership types have different interpretations of the proper implementation of the PSDA and respond at varying levels to the coercive and normative forces. Furthermore, conscience clauses mitigate the effect of coercive forces regarding the legal mandate of the PSDA because conscience clauses give legitimacy to the Ethical and Religious Directives for Catholic Health Care Services. This deliberation also incorporates the policy implementation literature that examines the challenges to implement social policy. Specifically, the results support and extend elements of Matland’s conflict-ambiguity model of policy implementation in that my results suggest that the ERDS in Catholic hospitals may influence the effectiveness of the PSDA. In Catholic hospitals, there is a potential divergence between the PSDA and the religious treatment protocols outlined in the ERDS. Hence, the ERDS limit the range of choices that physicians perceive as rational or prudent (DiMaggio & Powel, 1983). Across all competitive hospitals, normative forces outweigh coercive forces, as we were able to infer from the overall high

percentage of DNR violations. However, in Catholic hospitals and for-profit hospitals normative forces related to the professions appear to be even stronger when compared to other ownership types. Non-Catholic religious hospitals are the least likely to resuscitate patients with a DNR order. Religious non-Catholic hospitals such as Southern Baptist, Church of Jesus Christ of Latter-day Saints, Seventh-Day Adventists, and Orthodox Jewish institutions potentially impose religious constraints on medical services. Unlike Catholic hospitals, these other religious hospitals do not have a unifying treatment protocol based on religious doctrine such as Catholic hospitals. Patients may not face the same conflicting secular and religious pressures in religious non-Catholic hospitals as they do in Catholic hospitals. This argument would support Scott and Backman (1990) that central authority plays a role in organizational decision-making and specifically White's (2000; 2003) argument that the central authority of the Vatican plays an important role in shaping institutional norms.

### 5.2.2 Hypothesis 2 Interpretation and Discussion

A second aim of my dissertation was to examine the potential cost of DNR violations on the total cost from the discharge, on average. I cannot measure potential negative externalities associated with DNR violation. Nevertheless, I estimated the cost of a hospital stay of a patient who was resuscitated after cardiac arrest despite a DNR order, and I estimated the cost of a patient who was not resuscitated after cardiac arrest. Subsequently, I compared the two to examine a difference. Accordingly, the findings for Hypothesis 2 showed a \$3900 higher total cost from the discharge, on average, for patients with a standing DNR order who were resuscitated despite a DNR order when compared with those patients who were not resuscitated. The findings support my

hypothesis that noncompliance is associated with a higher total cost from the discharge, on average. The results also suggest that noncompliance with DNR orders may add significant hospital cost because of the use of life-prolonging technology. The finding supports a variety of studies that examined the effects of end-of-life care on cost (Maksoud, Jahningen, & Skibinski, 1991; Molloy et al., 2000; Nicholas et al., 2011; Zhang, 2009,), which suggest that life-prolonging technology in end-of-life care increases cost. While the \$3900 higher total discharge cost does not appear to be much, it does not take into account the potential costs that accrue in medical expenses after the discharge. For example, there is always the potential for re-hospitalizations. Thus, we only know the real cost of DNR violations if we can track repeated admissions for the same patients. The current study is just a small beginning to study DNR compliance systematically, at the same time; the results imply substantial and significant cost considerations of unwanted care.

### 5.2.3 Hypothesis 3 Interpretation and Discussion

Overall, the findings support that patient characteristics influence DNR noncompliance. The findings suggest that black patients have a 24 percent higher likelihood of resuscitation after cardiac arrest despite a DNR order. County affected the likelihood of DNR noncompliance for Blacks. As it was the case with for-profit hospitals, local economic conditions may drive this finding. In return, a more cynical motivation for DNR violations like the lure of increased revenue could be at play (Gawande, 2014; Lown, 2007; Reich, 2014). My results show that the predicted probability for Blacks to be resuscitated despite a DNR order is about 32 percent. For Whites, the predicted probability for DNR noncompliance is about 28 percent. Together the findings support

previous research (Loggers et al., 2009) in which the investigators reported that unlike the white patients, some black patients received intensive end-of-life care in the last week of life despite a recorded DNR order. Although Loggers et al. (2009) examined a small sample (n=302) of patients, my empirical analysis, larger in scope (N=9074), supports the phenomenon of a linkage between patient autonomy and race. Loggers and colleagues suggested that social forces, beyond the immediate oncologist-patient interaction, might play a larger role in determining end-of-life outcomes for black patients than for white patients. For example, caregivers and clinicians paid greater attention to the patient preferences of white patients than those of black patients. The colleagues reported a lack of awareness of the DNR order by informal caregivers and/or clinicians and the placement in a facility other than the one providing the patient's primary oncology care at the time of terminal hospitalization. My findings suggest that gender may also play a role in how much intensive end-of-life care a patient receives in the last week of life. The results indicate a 13 percent lower likelihood of resuscitation after cardiac arrest, when compared with males. Moreover, the results show that the predicted probability for DNR noncompliance for females is about 27 percent compared to about that of 30 percent for males. The finding supports the expected outcome of hypothesis 3b that female gender affects the likelihood of DNR violations. In addition, the results show that Hispanic is associated with a 15 percent higher likelihood of noncompliance when compared with non-Hispanics. When controlling for county location of the hospital, Hispanic status became statistically insignificant. Nevertheless, the predicted probability for noncompliance for Hispanics is about 30 percent as compared to 28 percent for non-Hispanics. My findings extend studies that investigated disparities in the use of advance

directives for Blacks (Bullock, 2006; Jha et al., 2005) by adding data for Hispanics. The findings also support the hypothesized relationship between age and lower likelihood of DNR noncompliance. The results show that age is associated with the likelihood of DNR noncompliance. The results show that the predicted probability for resuscitation after cardiac arrest despite a DNR order is approximately 3.5 percent lower for each additional five years of age. Age also affected the likelihood of resuscitation. For example, for a 65-year-old patient the predicted probability of noncompliance was 40 percent, for a 75-year old was 31 percent, for a 95-year old it was 18 percent, but even for a 100-year old patient the probability for resuscitation with a DNR order was still 16 percent. The result suggests that the older the patient, the lower the probability for resuscitation after cardiac arrest despite a DNR order. Intuitively this makes sense.

### 5.3 Limitations

Nevertheless, I am aware of that my dissertation has a few limitations. One limitation is that the analysis is limited to California. Although California is often on the forefront of new health care initiatives, it is not representative of the U.S. (Mendel & Scott, 2010). Future research is needed to determine the extent to which these results can be generalized to other states and regions. In addition, I do not have individual-level data for health care employees. Thus, I cannot be sure about the motivations of individual physicians, nurses, or other staff personnel. A further limitation is that I do not know the exact order in which the resuscitation took place in proximity to other billable treatments (procedures) since the ICD-9-CM procedures codes do not appear in chronological order in the patient's discharge record. Therefore, the results are not conclusive about whether the extra cost for the discharge was for treatments that took place before or after the

resuscitation. By implication, I cannot say with certainty that any difference in discharge cost between compliant and noncompliant discharge records, on average, were invoked by the resuscitation, other than the cost of the resuscitation itself. Nevertheless, the results imply that noncompliance with DNR orders appears to increase total discharge costs, on average, in some way. Moreover, because I pooled the data across years, I did not adjust the dollar amounts to the current dollar value. Thus, the ~\$3900 difference in total discharge costs, on average, may be an underestimate.

#### 5.4 Ethical Implications

Despite limitations, my dissertation has significant ethical, theoretical, and policy implications. My findings show that a relative high number of patients are resuscitated despite a DNR order, suggesting substantial DNR violations across hospital ownership. This outcome implies that we need more specific and stronger rules regarding medical ethics in end-of-life care. The findings also suggest that DNR violations vary across hospital ownership and race, gender, and age. Catholic hospitals appear to be the most likely to resuscitate patients despite DNR orders and religious non-Catholic hospitals the least likely. My findings echo Burns and colleagues' (2003) sentiment that "few initials in medicine today evoke as much symbolism or controversy as the do not resuscitate order" (p. 1543). As I explicated in my introduction, the discussion around DNR orders is rooted in the four moral principles in biomedical ethics—autonomy, nonmaleficence, beneficence, and justice (Beauchamp & Childress, 2001). Medical ethicists are concerned whether the PSDA has fulfilled its promise of patient self-determination and whether, among other things, advance directives are being recognized and honored. Clark (2009) in his review of the implementation of the PSDA writes:

“The PSDA is one of those rare pieces of legislation that gives us a good sense of things, as we know they ought to be in the best of all worlds but few specifics on how to construct that world, no health care facility runs quite like the other, and no two health care professional share the same values” (p. 140).

In a 5-year implementation update, Clarke (2009) writes that we do not know whether advance directives are bring honored. However, Clarke observes, “In the absence of large-scale studies, some assessment must be limited to anecdotal evidence, thought that it is considerable” (p. 141). Ten years later, in a 15-year update, Clarke is encouraged about the fate of the PSDA. Clarke has witnessed efforts in the community at large to educate the public about advance directives and he states:

“In these respects [PSDA as an educational tool], the PSDA and its requirements have exceeded all expectations by becoming an informal standard of care—the “right thing to do” as the TV ad says. It is hoped that this trend towards universal acceptance and promotion, without legislative mandates or punitive enforcement, continues well into the future” (p. 159).

By the time of the 15-year update, no large-scale studies whether advance directives are bring honored had been conducted. Nevertheless, Clarke suggests a trend towards universal acceptance of the PSDA. In the 15-year review, Clarke framed the PSDA more as a means to educate people about advance directives and less as a means of enforcement of patient self-determination. I argue that how we frame the PSDA core requirements and, subsequently, DNR violations can determine whether the act’s implementation is symbolic or literal. If we want a literal implementation of the PSDA, then we would benefit to focus on its enforcement. Likewise, do we frame DNR violations as a “gross abuses of professional authority” or “a misguided effort” (Clarke, 2009, p. 135)? Clarke argues, “The law provides little direction for physicians, who may be guided at the practical level by their good professional instincts and their desire to take ‘the long-run view,’” (p. 135). I argue that stronger rules have to apply when a

physician's desire to prolong a patient's life is used as justification to violate a DNR order. These considerations also relate to the moral principle of justice. My results, which show that Blacks with a standing DNR order are more likely resuscitated when compared to Whites point to disparity issues that one usually finds in healthcare; they also reflect long suggested phenomenon that race is a factor in end-of-life care decision-making. Furthermore, the findings relate back to the literature on the history of discrimination and disadvantage experienced by African Americans regarding their autonomy in decision-making compromised by their race (King & Wolf, 1997–1998). Lastly, the finding that females experience fewer DNR violations seems to be positive outcome at first glance but seems the opposite outcome of research that points to systemic barriers women face in obtaining sterilization, abortion, and contraception. This paradox appears to be related to larger social forces such as the valuation of female life in general. Even though, the valuation of life across gender is outside the scope of my dissertation; this important topic will be addressed in my future research.

I will now turn to ethical implications regarding the variability of DNR violations across hospital ownership. Christie (2003) argues that Catholic and secular bioethical perspectives concur in their affirmation of autonomy's importance. Nevertheless, my findings suggest that we have to take Christie's statement with caution. Conscience clauses allow hospitals to implement religious doctrine in their patient care. Thus, DNR violations are not legally in breach of the PSDA. However, DNR violations place the religious doctrine above the patient's autonomy, which is an ethical problem. The central authority of the Vatican by means of the ERDS makes policy in Catholic hospitals regarding end-of-life care. This may create added ethical tension, as the Vatican shapes

treatment protocols through the ERDS that give the ultimate authority to what is morally correct not to the patient but the Catholic Church (White, 2000, 2003). The absence of a central authority could explain why religious non-Catholic hospitals have the lowest likelihood of DNR violation among hospital ownership types. In addition to patient's autonomy, my findings have ethical implication regarding the cost of DNR violations. Hospitals may provide services for individuals who prefer to die naturally. We could redirect these resources to the underserved in their end-of-life care or other health care services. Moreover, DNR violations place the burden of care on families and others, who may have to give up their employment or make other drastic lifestyle changes to take care of the patients' needs (see Hardwig, 1997).

### 5.5 Theoretical Implications

Clarke (2009) argues that most health care organizations institutionalized the provisions of the PSDA. However, research that examines institutional influences on ritual conformity shows that especially in social policy, regulative or coercive factors are not enough for organizations to show similar responses to mandates. Thus, organizations can be quite heterogeneous in their enactment of policies (Edelman, 1990; 1992; Edelman & Suchman, 1997; Scheid-Cook, 1992; Scheid & Suchman, 2001; Suchman & Edelman, 1996). My findings support these arguments.

I suggest two explanations for my findings that Catholic hospitals are predicted to be most likely to resuscitate a patient despite a DNR order followed closely by for-profit hospitals. Both accounts assume that institutional beliefs determine which outcomes the hospital pursues. One explanation is that religion is the institutional driver of DNR violations. Catholic hospitals may have a different valuation of prolonging of life, which

may be related to Catholic doctrine as enunciated through the ERDS. Non-Catholic religious hospitals are not subject to a central authority and can more freely exercise their religious freedom. As my results suggest, the beliefs and values embodied in the PSDA appear to be in conflict with the beliefs and values embodied by the Ethical and Religious Directives for Catholic Health Care Services. I propose that patients face conflicting secular and doctrinal pressures in hospitals where religious doctrine shapes treatment protocols. While institutional approaches suggest that all contemporary hospitals face institutional and technological environments, in Catholic hospitals, treatment decisions involve professional norms, efficiency concern, and the doctrine of the Vatican, which entail another set of institutional influences (White, 2003). The conflict between the institutionalized encouragement of patient self-determination and the dictates of the Vatican suggest that society has not fully addressed how to alleviate the tension between secular and religious forces. For example, Catholic hospitals may have to choose between honoring patients' preferences and honoring the ERDS (see also Reich, 2014). As noted by Reich (2014), the physician who was in charge of palliative care at the Catholic hospital "Expressed trepidation about conservative tendencies at the top of the Catholic Church" (p. 86). If practitioners in Catholic hospitals choose to honor patient preferences, they may individually face excommunication or the Catholic Church may cease to recognize the entire hospital as a Catholic institution (Cohen, 2004). I argue that the ambiguous nature of the PSDA contributes to the tension between secular and doctrinal pressures. The goals of either the PSDA or the ERDS are open for interpretation, which leaves room for unwanted treatment.

Religion as the driver for the higher DNR violations, however, does not explain the finding that for-profit hospitals share almost the same predicted probability of DNR violations, as do Catholic hospitals. This outcome suggests that Catholic and for-profit hospitals have something in common, which could be related to supply-side demand. Thus, the other explanation why Catholic hospitals may have a different valuation of prolonging life is related to cost considerations (Reich, 2014; White, 2000, 2003). Catholic hospitals have the highest predicted probability for DNR violations followed closely by for-profit hospitals. Catholic hospitals have been shown to behave like other hospital ownership types on measures of efficiency. For example, Catholic hospitals have been “scrutinized to ascertain that the community benefits they provide equal or exceed their tax liability” (White, 2000, p. 230). Therefore, the higher likelihood of DNR violation may be related to supply-side economics (Reich, 2014). Reich argues that physicians in Catholic hospitals may behave as entrepreneurs and their professional role merges with their role as economic actors. The result also portrays Catholic hospitals as a curious mix of rational wealth-maximizers, which view the law as a system of substantive incentives and penalties, and cultural rule-followers, which see the law as a “system of moral principles, scripted roles, and sacred symbols” (Edelman & Suchman, 1997, p. 482).

## 5.6 Policy Implication

Framing unwanted care must be seen as a public health issue. Thus far, we have framed patient self-determination as primarily driven by the quality of the physician-patient relationship. All along, we have witnessed private struggles to avoid unwanted care to no avail. I argue we need stronger rules for hospitals regarding medical ethics. I

suggest drawing a comparison with tobacco consumption, which we link to supply-side demand. Prior to anti-smoking legislation, we also witnessed private cessation struggles. It was not until we framed tobacco consumption as a public health issue, supported by public health initiatives that social norms changed. Legislators issued smoking bans in public buildings that were enforced, and we held tobacco companies accountable for damages. We do not know if the U.S. would have collectively reduced its tobacco consumption if legislators had called their legal efforts “pro-smoking cessation legislation.” Clarke (2009) argues “the core requirements of the PSDA can be implemented at a superficial level, the long-term benefits will only be realized through significant and fundamental changes in institutional policy, public and professional education, and social awareness” (p. 123). However, the PSDA has been around for 30 years, and my findings suggest that DNR compliance is not the logical extension of public and professional education, or social awareness about DNR orders. Instead, the PSDA implementation thus far is rather symbolic. We may need deterrents for DNR violations because hospitals arguably have financial incentives for unwanted care.

At the same time, incentives regarding DNR orders are problematic. For example, incentives that are tied to the number of DNR orders that are written in a hospital will only incentivize the quantity of DNR orders. Instead, we need to incentivize the compliance with DNR orders (Pope, 2010) as compliance is not always the logical conclusion to the completion of DNR orders. Furthermore, I agree that we have to respect the right of people who will never sign an advance directive (Clarke, 2009); therefore, policy should focus on honoring the preferences of individuals and their families who have made the choice to have a DNR order. The law in its current state provides little

direction for physicians (Clarke, 2009; White, 2003). Physicians in the role of health care decision-makers are a source of variance in compliance with DNR orders. The lack of direction for physicians increases paternalism at the cost of patient autonomy. If legislators expect the PSDA to work and hospitals to follow its mandate—to acknowledge and honor advance directives—it would benefit legislators to define a methodology about what the PSDA means when it requires hospitals to recognize and to honor advance directives. Furthermore, if legislators intend to ensure compliance with DNR orders, they may want to consider revising statewide conscience clauses. These clauses grant physicians permission to deviate from patient instructions for professional and religious reasons. Legislators may consider allowing the assessment of a penalty to those hospitals receiving reimbursements through the Medicare and Medicaid benefit that do not comply. Subsequently, removal or reduction of tax-exempt status for hospitals that violate DNR orders is another suggestion. These penalties may create an environment in which patient self-determination can be a reality.

While the ~\$3900 higher total discharge cost may not appear to be much, it does not account for the potential costs that accrue in medical expenses after the discharge. We only know the real cost of DNR violations if we can track repeated admissions for the same patients. If supply-side demand is to explain DNR order noncompliance, then DNR violations could be “the gift the keeps on giving.” As outlined in Chapter 1, identifying what drives medical expenditures for the chronically and critically ill among the older population is critical (Berenson et al., 2009). The findings suggest that hospitals may provide services for individuals who prefer to die naturally, taking away resources and further constraining access. A redirection of lost resources may benefit the underserved in

their end-of-life care or other health care services. When a hospital provides services for which the patient has no demand, the situation may lead to a Pareto-suboptimal situation, reducing social welfare overall. The empirical results of the study suggest that by focusing on patients' preferences for end-of-life treatment, we may also reduce some of the cost associated with prolonging life. This idea was supported by the recent IOM report "Dying in America" (2014), which emphasized the connection between patient preferences and cost. Perhaps society can embrace the aspect of cost by acknowledging that DNR compliance is about a patient's preferences not about a cost-cutting mechanism.

### 5.7 Future Research

My findings may encourage more research on the effect of conflicting institutional environments on health care delivery. This interest applies specifically to the area of potential conflict between secular and religious values and beliefs in bioethics. More broadly, my dissertation may support future investigations about the larger role of religious and faith-based institutions and their intersection with school choice, educational curriculums, and other social policy areas.

Moreover, the next decade is likely to witness a growing interest in the debate about patient autonomy and end-of-life care. Three developments will drive the discussion: the aging out of the Baby Boomer generation, advances in life-sustaining technology, and the rise in Medicare and Medicaid costs. Therefore, more data would go far towards enhancing our understanding of DNR compliance. Moreover, to further this research, future work should investigate the evident link between gender and race and DNR compliance. A particular focus on Black women would be interesting as would be a focus on the socially isolated such as the homeless. This suggestion also applies to future

research about the role of surrogates in cases when a patient is incompetent, and the patient has no advance directive.

## 5.8 Conclusion

In my dissertation, I examined unwanted treatment, specifically; do not resuscitate order violations, in the larger context of the Patient Self-Determination Act. I investigated hospitals' implementation of the PSDA, analyzing DNR violations across hospital ownership types and examining PSDA related historical, institutional, and economic influences. I focused on the impact of Catholic hospitals on DNR violations and, I examined potential cost implications of DNR violations. While the PSDA and its potential impact on end-of-life decision-making and the expense of unwanted care have received much attention in the health policy arena, we still understand DNR violations poorly. Moreover, much uncertainty still exists about the relationship between religious hospital ownership and health care delivery. Despite its limitations, my dissertation sheds light not only on the scope of DNR violations and the potential related expense, but also on theoretical approaches regarding institutional influences on organizational decision-making.

Fundamentally, my dissertation found quantitative evidence supporting the numerous case studies and narratives on barriers to hospital compliance with DNR orders. I found this evidence by using an innovative strategy that involved International Statistical Classification of Diseases and Related Health Problems (ICD) diagnoses and procedure codes found in patients' discharge records. My results suggest that DNR violations do occur quite routinely; my results also show that it is reasonable to suggest that DNR violation may carry an extra expense.

My dissertation also found that patients in Catholic hospitals are more likely to experience DNR violations when compared to other hospital ownership types. An examination of the uniqueness of Catholic hospitals, precisely the distinctive institutional influence of its central leadership, the Vatican, suggests a conflict between Catholic hospitals' autonomy and the authority of the Church invoked by the Ethical and Religious Directives for Catholic Health Care Services. In return, this conflict may exasperate the conflict between patient autonomy and paternalism that we find at any contemporary hospital. Unlike Catholic hospitals, religious non-Catholic hospitals lack the institutional influence of a central leadership that mandates treatment protocols. This lack of a central power may attenuate conflicts between patient autonomy and paternalism. In addition, my dissertation suggests an alternate potential supply-side explanation for DNR violations. Catholic and for-profit hospitals showed similar predicted probabilities for DNR violations. Supply-side demand may be a stronger influence on DNR compliance than religion.

Medical ethicists argue that if it is society's goal for the PSDA to be successful, we need to know what sorts of value structures explain DNR violations. Specifically, what normative argument is sufficient to overcome this resistance? In that vein, my dissertation supports the arguments that some organizations respond more to coercive forces while others to normative forces. I found that both Catholic and for-profit hospitals appeared to respond less to coercive and more to normative forces. I call for framing unwanted care as a public health issue because framing patient self-determination as primarily driven by the quality of the physician-patient relationship, does not produce desired outcomes. We have many examples that suggest that normative arguments are

often not enough to bring about large-scale changes. I brought up examples of anti-smoking legislation and anti-discrimination legislation, which used more sticks than carrots, whereas the PSDA appears to be all carrots. At the same time, the coercive forces of the PSDA seem to be neither strong nor clear.

In that vein, I argue that we overestimate the universal acceptance of patient autonomy. My results suggest that the PSDA has been institutionalized foremost as an educational tool and on a rather symbolic level. Much of this has to do with the ambiguous nature of the PSDA. First, I recommend an overhaul of the PSDA including but not limited to specific rules how hospitals record and manage advance directives, including specific language and guidelines for DNR orders. I argue that the PSDA has to do a better job to delineate between patients that want more treatment than they receive and patients that want less treatment than they receive. The ambiguous nature of the PSDA contributes to the varying success in institutionalizing patient self-determination across hospital ownership types. If hospitals are more inclined to use life-sustaining treatment, the PSDA gives them plenty of wiggle room. Thus, if it is society's goal for the PSDA to be successful in acknowledging and honoring DNR orders and to avoid DNR violations in any form, legislators have to be more specific about the PSDA's goals. Second, I recommend that in research and public discourse, conversations about end-of-life care need to be more concrete. For example, in "Dying in America", the IOM (2014) refers directly to 'patient preferences' as if we hope that patients have only one preference and that preference is less and not more treatment than they receive.

My research also found empirical evidence for a relationship between noncompliance with hospital DNR orders and the total cost from the discharge, on

average. Thus, if the extra cost accrues for a hospital stay of a patient who did not want to receive CPR, there is an economic dimension to DNR noncompliance in addition to ethical and legal issues. For example, the patients, arguably, received treatment that they did not prefer which in return may lead to higher Medicare and Medicaid expenditures in end-of-life care. At the same time, no one knows whether misplaced resources will be redirected to benefit the underserved in their end-of-life care or other health care services.

A further implication of my dissertation is the continued importance to examine the impact of the PSDA on end-of-life care decisions for minorities and women. Primarily, the role of the family and surrogates concerning the compliance with DNR orders appears to be important. Disparities in end-of-life care framed through the assessment of life by the family and surrogates versus the valuation of life by the hospital invite future research on this topic. In summary, my dissertation informs institutional influences on health care ethics and sheds light on the larger role of religion, specifically Church doctrine on health care delivery. My dissertation also reports cost considerations of DNR orders especially in the realm of supply-driven demand for end-of-life care. I argue that public policy has to do a better job to delineate constructs of wanted and unwanted end-of-life care. As long as these two constructs are muddled, we will mistakenly construe DNR orders as a cost saving mechanism, and the public will stay away from talking about them. Thus, unwanted care will remain American medicine's dark continent.

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## APPENDIX A: CALIFORNIA PROBATE CODE SECTION 4730-4736

## Duties of Health Care Providers

4730. Before implementing a health care decision made for a patient, a supervising health care provider, if possible, shall promptly communicate to the patient the decision made and the identity of the person making the decision.

4731. (a) A supervising health care provider who knows of the existence of an advance health care directive, a revocation of an advance health care directive, or a designation or disqualification of a surrogate, shall promptly record its existence in the patient's health care record and, if it is in writing, shall request a copy. If a copy is furnished, the supervising health care provider shall arrange for its maintenance in the patient's health care record.

(b) A supervising health care provider who knows of a revocation of a power of attorney for health care or a disqualification of a surrogate shall make a reasonable effort to notify the agent or surrogate of the revocation or disqualification.

4732. A primary physician who makes or is informed of a determination that a patient lacks or has recovered capacity, or that another condition exists affecting an individual health care instruction or the authority of an agent, conservator of the person, or surrogate, shall promptly record the determination in the patient's health care record and communicate the determination to the patient, if possible, and to a person then authorized to make health care decisions for the patient.

4733. Except as provided in Sections 4734 and 4735, a health care provider or health care institution providing care to a patient shall do the following:

(a) Comply with an individual health care instruction of the patient and with a reasonable interpretation of that instruction made by a person then authorized to make health care decisions for the patient.

(b) Comply with a health care decision for the patient made by a person then authorized to make health care decisions for the patient to the same extent as if the decision had been made by the patient while having capacity.

4734. (a) A health care provider may decline to comply with an individual health care instruction or health care decision for reasons of conscience.

(b) A health care institution may decline to comply with an individual health care instruction or health care decision if the instruction or decision is contrary to a policy of the institution that is expressly based on reasons of conscience and if the policy was timely communicated to the patient or to a person then authorized to make health care decisions for the patient.

4735. A health care provider or health care institution may decline to comply with an individual health care instruction or health care decision that requires medically ineffective health care or health care contrary to generally accepted health care standards applicable to the health care provider or institution.

4736. A health care provider or health care institution that declines to comply with an individual health care instruction or health care decision shall do all of the following:

(a) Promptly so inform the patient, if possible, and any person then authorized to make health care decisions for the patient.

(b) Unless the patient or person then authorized to make health care decisions for the patient refuses assistance, immediately make all reasonable efforts to assist in the transfer of the patient to another health care provider or institution that is willing to comply with the instruction or decision.

(c) Provide continuing care to the patient until a transfer can be accomplished or until it appears that a transfer cannot be accomplished. In all cases, appropriate pain relief and other palliative care shall be continued.

## APPENDIX B: CALIFORNIA PROBATE CODE SECTION 4780-4786

## Request Regarding Resuscitative Measures

4780. (a) As used in this part:

(1) "Request regarding resuscitative measures" means a written document, signed by (A) an individual with capacity, or a legally recognized health care decisionmaker, and (B) the individual's physician, that directs a health care provider regarding resuscitative measures. A request regarding resuscitative measures is not an advance health care directive.

(2) "Request regarding resuscitative measures" includes one, or both of, the following:

(A) A prehospital "do not resuscitate" form as developed by the Emergency Medical Services Authority or other substantially similar form.

(B) A Physician Orders for Life-sustaining Treatment form, as approved by the Emergency Medical Services Authority.

(3) "Physician Orders for Life-sustaining Treatment form" means a request regarding resuscitative measures that directs a health care provider regarding resuscitative and life-sustaining measures.

(b) A legally recognized health care decisionmaker may execute the Physician Orders for Life-sustaining Treatment form only if the individual lacks capacity, or the individual has designated that the decisionmaker's authority is effective pursuant to Section 4682.

(c) The Physician Orders for Life-sustaining Treatment form and medical intervention and procedures offered by the form shall be explained by a health care provider, as defined in Section 4621. The form shall be completed by a health care provider based on patient preferences and medical indications, and signed by a physician and the patient or his or her legally recognized health care decisionmaker. The health care provider, during the process of completing the Physician Orders for Life-sustaining Treatment form, should inform the patient about the difference between an advance health care directive and the Physician Orders for Life-sustaining Treatment form.

(d) An individual having capacity may revoke a Physician Orders for Life-sustaining Treatment form at any time and in any manner that communicates an intent to revoke, consistent with Section 4695.

(e) A request regarding resuscitative measures may also be evidenced by a medallion engraved with the words "do not resuscitate" or the letters "DNR," a patient identification number, and a 24-hour toll-free telephone number, issued by a person pursuant to an agreement with the Emergency Medical Services Authority.

4781. As used in this part, "health care provider" includes, but is not limited to, the following:

(a) Persons described in Section 4621.

(b) Emergency response employees, including, but not limited to, firefighters, law enforcement officers, emergency medical technicians I and II, paramedics, and employees and volunteer members of legally organized and recognized volunteer organizations, who are trained in accordance with standards adopted as regulations by the Emergency Medical Services Authority pursuant to Sections 1797.170, 1797.171, 1797.172, 1797.182, and 1797.183 of the Health and Safety Code to respond to medical emergencies in the course of performing their volunteer or employee duties with the organization.

4781.2. (a) A health care provider shall treat an individual in accordance with a Physician Orders for Life-sustaining Treatment form.

(b) Subdivision (a) does not apply if the Physician Orders for Life-sustaining Treatment form requires medically ineffective health care or health care contrary to generally accepted health care standards applicable to the health care provider or institution.

(c) A physician may conduct an evaluation of the individual and, if possible, in consultation with the individual, or the individual's legally recognized health care decisionmaker, issue a new order consistent with the most current information available about the individual's health status and goals of care.

(d) The legally recognized health care decisionmaker of an individual without capacity shall consult with the physician who is, at that time, the individual's treating physician prior to making a request to modify that individual's Physician Orders for Life Sustaining Treatment form.

(e) An individual with capacity may, at any time, request alternative treatment to that treatment that was ordered on the form.

4781.4. If the orders in an individual's request regarding resuscitative measures directly conflict with his or her individual health care instruction, as defined in Section 4623, then, to the extent of the conflict, the most recent order or instruction is effective.

4781.5. The legally recognized health care decisionmaker shall make health care decisions pursuant to this part in accordance with Sections 4684 and 4714.

4782. A health care provider who honors a request regarding resuscitative measures is not subject to criminal prosecution, civil liability, discipline for unprofessional conduct, administrative sanction, or any other sanction, as a result of his or her reliance

on the request, if the health care provider (a) believes in good faith that the action or decision is consistent with this part, and (b) has no knowledge that the action or decision would be inconsistent with a health care decision that the individual signing the request would have made on his or her own behalf under like circumstances.

4783. (a) Types for requests regarding resuscitative measures printed after January 1, 1995, shall contain the following:

"By signing this form, the legally recognized health care decisionmaker acknowledges that this request regarding resuscitative measures is consistent with the known desires of, and with the best interest of, the individual who is the subject of the form."

(b) A printed form substantially similar to that described in subparagraph (A) of paragraph (2) of subdivision (a) of Section 4780 is valid and enforceable if all of the following conditions are met:

(1) The form is signed by the individual, or the individual's legally recognized health care decisionmaker, and a physician.

(2) The form directs health care providers regarding resuscitative measures.

(3) The form contains all other information required by this section.

4784. In the absence of knowledge to the contrary, a health care provider may presume that a request regarding resuscitative measures is valid and unrevoked.

4785. This part applies regardless of whether the individual executing a request regarding resuscitative measures is within or outside a hospital or other health care institution.

4786. This part does not repeal or narrow laws relating to health care decisionmaking.

APPENDIX C: CO-EVOLUTION OF CRITICAL END-OF-LIFE LEGISLATION,  
DNR USE, AND CPR TECHNOLOGY

Year	EOL	DNR	CPR
1906	First euthanasia bill drafted in Ohio		
1956			AC defibrillation shown to reverse ventricular fibrillation by Zoll and colleagues
1960			Closed-chest cardiac massage to support patients who arrested during anesthesia (Kouwenhoven and colleagues)
1962			DC defibrillation demonstrated to be superior to AC defibrillation by Lown and colleagues
1967	Luis Kutner proposes living will		
		American Hospital Association (AHA) adopted a Patients' Bill of Rights including "the controversial provision [that] said patients had the right to refuse treatment"	
1974	Euthanasia Society reborn as Society for the Right to Die	AMA called for the documentation of DNR order status in patient files proposed that DNR decisions be documented in the medical record and	
1976	New Jersey Supreme Court decides Karen Ann Quinlan case		

1976	California Natural Death Act passes, first in nation to give legal standing to living wills and protect physicians from liability for not treating incurable illnesses.		
1980	Pope John Paul II issues declaration opposing mercy killing but approving greater use of painkillers to ease pain and the right to refuse extraordinary means for sustaining life		
1990	Washington Initiative 119 is filed, first state voter referendum		
1990	American Medical Association adopts formal position that with informed consent, physician can withhold or withdraw treatment from a patient close to death and may also discontinue life support of patient in permanent coma		
1990	Supreme Court decides Nancy Cruzan case		
1990	Congress passes Patient Self-Determination Act		
1994	All fifty states and District of Columbia now recognize advance directives		

## APPENDIX D: NUMBER OF HOSPITALS IN THE ANALYSIS

Year	Community Hospitals in the SID	Hospitals in the SID not Identified as Community	Community Hospitals not Included in the SID	Total Number of Hospitals in the Study (Hospitals that could be linked to AHA)
2006	364	36	7	379/400
2007	360	36	7	384/396
2008	361	34	7	387/395
2009	354	36	3	390/390