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Article

# Comparative Metrics and Policy Learning: End-of-Life Care in France and the US

MICHAEL K. GUSMANO*,**,†, VICTOR G. RODWIN‡, DANIEL WEISZ§, JONATHAN COTTENET***,****, & CATHERINE QUANTIN****

*Department of Health Behavior, Society and Policy, Rutgers University School of Public Health, Piscataway, NJ, USA, **The Hastings Center, †Rockefeller Institute of Government, SUNY, ‡Wagner School of Public Service, New York University, New York, USA, §R.N. Butler Columbia Aging Center, Columbia University, New York, USA, ***Inserm, Clinical Epidemiology/Clinical Trials Unit, CIC 1432 Dijon University Hospital, Clinical Investigation Center, Dijon, France, ****Biostatistics, Biomathematics, Pharmacoepidemiology and Infectious Diseases (B2PHI), INSERM, UVSQ, Institut Pasteur, Université Paris-Saclay, Paris, France

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ABSTRACT *Comparative policy analysis sometimes relies on the use of metrics to foster policy learning. We compare health care for patients at the end of life (EOL) in the US and France. The analysis aims to enable policy makers in both nations to reexamine their own health systems in light of how their counterparts are responding to common concerns about the intensity, quality and cost of EOL care. We find that a higher percentage of French decedents 65 years and over, are hospitalized, yet they spend fewer days in intensive care units (ICUs) than their counterparts for whom data are available (Medicare beneficiaries) in the US. In addition, decedents in the US consult with a higher number of different physicians than their French counterparts. We also compare patterns of hospital use for decedents in EOL care among academic medical centers*

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**Michael K. Gusmano**, PhD is an Associate Professor of Health Policy in the Rutgers University School of Public Health and a core member of the Institute for Health, Health Care and Aging Research. In addition to his appointments at Rutgers, Dr. Gusmano is a research scholar at the Hastings Center and a Senior Fellow at the Rockefeller Institute of Government. His research focuses on aging, health, and social policy.
**Victor G. Rodwin**, PhD, MPH, is a Professor at the Robert F. Wagner School of Public Service, New York University and Co-Director (with Michael Gusmano) of the World Cities Project. Professor Rodwin's research and teaching focus on population health and policy, comparative analysis of health care systems and international perspectives on health system performance and reform.
**Daniel Weisz**, MD, MPA, is a research associate at the Robert N. Butler Columbia Aging Center, Columbia University. Dr. Weisz's research efforts, as a staff member of the World Cities Project (WCP), have been directed at the health policy implications of comparisons of health system performance and the analysis of health and health care disparities both inter- and intra-city in New York, Paris, London and other cities included in the WCP. He is a New York State licensed physician, a Board certified General and Cardiothoracic Surgeon, retired from clinical practice.
**Jonathan Cottenet** is a statistician in the Department of Biostatistics and Medical Informatics, University Hospital Center in Dijon, France.
**Catherine Quantin**, MD, PhD, is a Professor and head of the Department of Biostatistics and Medical Informatics, University Hospital Center in Dijon, France. She is also a researcher at the Institut National de la Santé et de la Recherche Médicale in France (Biostatistics, Biomathematics, Pharmacoepidemiology and Infectious Diseases (B2PHI) team, Paris).
Correspondence Address: Michael K. Gusmano, Health Policy, Department of Health Behavior, Society and Policy, Rutgers School of Public Health, 683 Hoes Lane West, Room 311, Piscataway Township, NJ 08854. Email: mkg93@sph.rutgers.edu, mkg93@sph.rutgers.edu

*(AMCs) in the US and France. We find greater variation among French AMCs than among their counterparts in the US.*

**Keywords:** comparative analysis; end of life care; France; United States

## 1. Introduction

All of us in the field of policy studies make comparisons – both within nations and among them – and there is a vast literature on "transferable learning" most recently covered in this journal (Bachler and Wolf 2018; Wolf and Baehler 2018). The themes in this literature recall what Eugene Bardach (2004) called the "extrapolation problem": how to disentangle the extent to which institutional, organizational and cultural contexts may facilitate or hamper policies we seek to implement (Newman and Head 2015). In a recent collection of comparative analyses on the performance of the US health system, Mark Schlesinger (2018) frames the extrapolation problem as one concerned with the "multiple logics of cross-national comparisons" and the role of analogies and metaphors "in the thinking of political elites and the general public" (Schlesinger 2018: 902). He applauds the use of comparisons that are "attentive to the nuances of careful measurement and analysis" but cautions us not to lose touch with the "larger purposes of health policy and governance" (Schlesinger 2018: 902).

In this paper on end of life (EOL) care in France and the US, we do not attempt to solve the extrapolation problem because neither country has found a "best practice" solution to the problem of how to organize EOL care. In many respects, EOL care has many of the attributes of a wicked problem (Rittel and Webber 1973) with no clear solution. EOL care poses the challenge of how to determine when the benefits of life-sustaining treatments no longer outweigh its burdens. How can we minimize experiences that "induce pain, discomfort, and impaired function" for the decedent and "lingering regrets regarding the care received" by surviving family (Emmanuel 2018, p. 240)? Although it is tempting to believe that EOL care is either disastrously managed or mostly solved abroad, our comparison of US and French experience suggests that the problem posed by this dilemma has frustrated policy makers, managers and clinicians in both countries.

Drawing on Marmor's (2018) framework for comparative learning, we offer a two-case comparison relying on commonly used metrics to analyze EOL care in both systems. Although we do not presume to explain, evaluate or prescribe, we hope to escape the common pitfalls of descriptive mischaracterizations: what Klein 1997, p. 94) calls "ethnocentric overexplanation" and what Marmor (2018, p. 314) calls "explanatory provincialism". Based on frequently used metrics to analyze EOL care in the US, our objective – both French and American authors of this paper – is to provide a cross-national perspective to understand the health systems in our respective countries (Marmor et al. 2005). Of course, single cases and two-country comparisons never prove anything, but they can contribute to policy learning. As Klein (1997, p. 1270) explains:

> The experience of other countries is largely valuable insofar as it prompts a process of critical introspection by enlarging our sense of what is possible… For policy learning is not about the *transfer* of ideas or techniques but about their adaptation to local circumstances. (Emphasis in original)

## 2. End-of-Life Care in France and the US

Policy makers and patients in France and the US are concerned about the intensity, quality and cost of health care at the EOL. In the 1970s, several court cases helped to establish the rights of patients to refuse life-sustaining treatment. In addition, advocates of EOL care pushed for the establishment and expanded use of advance directives in an effort to better align EOL treatment with the preferences of patients and families (Wolf et al. 2015). Along with establishing the rights of patients to be more involved in the nature of their care at the EOL, advocates also worked to improve access to palliative care. The US Congress passed the Tax Equity and Fiscal Responsibility Act (TEFRA) in 1982, which established the Medicare program's hospice benefit (Davis 1988).

Drawing on the pioneering work of Cicely Saunders and Elisabeth Kubler-Ross in the UK, the first hospice in the US was established in 1973 (Davis 1988). Over the next ten years, hospice programs grew throughout the country (Vince and Masterson-Allen 1987; Davis 1988). Despite the growth of this movement, palliative care in the US remains scarce. Frustrated by the limits of previous efforts to improve EOL care, in the 1990s some advocates began to call for policies that would allow for physician-assisted suicide (Wolf et al. 2015). In 1994, Oregon became the first state to legalize physician-assisted suicide. After the Supreme Court recognized states' rights to prohibit or legalize physician-assisted suicide, four additional states (Montana, New Mexico, Vermont and Washington) allowed this practice (Wolf et al. 2015).

In contrast to the US, policy makers in France focused less attention on EOL treatment policies until 2005, when the French Parliament enacted Leonetti's law 2005-370. Before 2005, French law did not provide the legal right for patients to demand withdrawal of treatment at the EOL. Leonetti's law established a patient's right to request withholding or withdrawal of treatment, pain relief and mechanisms for expanded use of advance directives (Baumann et al. 2009).

### 2.1. *The Value of France–US Comparisons*

France is often ignored in the English-language health policy literature (Rodwin et al. 2006) but since French national health insurance (NHI) and Medicare share much in common while embedded in contrasting institutional contexts, they provide policy makers with ample opportunities for mutual learning (Gusmano and Rodwin 2015). As with Medicare, French NHI relies on a combination of mandatory payroll taxes and general income tax revenue. Also, it relies on multiple payers, all of which reimburse providers at the same rate. Likewise, hospitals in France are paid on the basis of case-based reimbursement (*tarification à l'activité* – T2A) using prospectively set diagnosis related groups (DRGs) similar to those used by Medicare. Even more so than in the US, fee-for-service (FFS) is the predominant method of payment for physicians, nurses and other health care professionals in private practice. Although public hospitals are dominant in France, there is still a significant role for private institutions, with a mix of for-profit and not-for-profit hospitals.

Despite these similarities, there are important differences that may be relevant to EOL care. First, as we noted above, the US has a longer history of promoting the use of advance directives and palliative care and established a right to withhold and withdraw treatment 40 years before France. These differences suggest that the US offers patients and families greater opportunities to choose less aggressive forms of treatment at the EOL. The French health system operates within budget targets set by Parliament and, since 2010, health care expenditures have kept within these targets. Hospital rates are set by government after negotiation with hospital representatives. Fees paid to physicians, within these budget targets, are negotiated directly between the union of NHI insurance funds (UNCAM) and representatives of physicians' trade unions. The US Medicare system also has an administrative system for setting hospital and physician fees, but it operates neither within the context of budget targets nor within a system of institutionalized negotiations among physicians and government. In contrast to France, price control in the US applies only to public programs. The ability of health care providers to extract higher prices from private insurers is the most important factor explaining the high US spending in comparison to other high-income nations (Gross and Laugesen 2018; Papanicolas et al. 2018). Although France has one of the most expensive health care systems in Europe, its per capita health care spending is about half that of the US (Rodwin 2018). France has more short-stay (acute) hospital beds per capita than the US (Gusmano et al. 2010), but only half the number of intensive care unit (ICU) beds (Wunsch et al. 2008; Murthy and Wunsch 2012).

## *2.2. US Perceptions of Rationing Abroad*

The ability of NHI systems, as in France, to place tighter limits on medical prices than the US is one reason why critics often claim that universal health care coverage leads to unwanted "rationing" of expensive care. Senator Mitch McConnell attacked the Democratic plan for health reform in 2009 because he claimed it would "lead to the government rationing care, making people stand in line and denying treatment like they do in other countries with national healthcare" (Perr 2014). As a Vice-Presidential candidate in 2012, US House Speaker Paul Ryan echoed this claim when he asserted that President Obama and the Democrats were reforming the American health system to resemble those in Canada and Europe in which "socialized medicine" undermines care. According to Ryan, "The idea that the government should make decisions about how long people should live is deeply offensive to everything America stands for. It is wrong to conclude that because health care resources are limited, therefore the federal government must ration care" (Jones 2012).

For people at the EOL, such views have led some US policy makers to suggest that "government run" systems deny life-saving care to older people. The most egregious example of this position was the claim that the Patient Protection and Affordable Care Act (ACA) would lead to "death panels". The public debate over the ACA that continues today was Sarah Palin's infamous suggestion, in August 2009, that the President's health reform proposal would create "death panels" to deny life-sustaining care to patients (Bank 2009). The *Investor's Business Daily* even claimed that the ACA would lead to the sort of rationing found in the UK: "People such as scientist Stephen Hawking wouldn't have a chance in the UK, where the National Health Service would say the life of this brilliant man, because of his physical handicaps, is essentially worthless" (Investor's Business Daily 2009). In response, Professor Hawking pointed out that he has received all of his health care from the English NHS!

The death panel rhetoric during the US health reform debate was baseless (PolitiFact.com dubbed it the "lie of the year" in 2009), but it led Congress to abandon a plan to allow physicians to bill Medicare for EOL planning conversations with their patients (Holan 2009). More importantly, it fed into long-standing fears about government rationing that are frequently used to undermine public support for the expansion of government insurance (Leonard 2013). These fears can be reinforced, unintentionally, by studies that show much lower aggregate and per capita spending on hospital and physician services among people at the EOL in countries with universal health care coverage compared with the US (French et al. 2017). For example, in 2014, France spent less than $40,000 per capita on hospital care, physician care and pharmaceuticals among patients in the last 12 months of life, compared with over $50,000 per capita on those services in the US (French et al. 2017).

## 3. Comparative Metrics on EOL Care

The French population is older than their US counterparts (Table 1), but both countries are aging and policy makers are concerned about how to adapt their health care systems to accommodate the needs of older populations (Gusmano et al. 2015). Along with unsubstantiated fears about government rationing, there are serious and well documented concerns about the cost, quality and appropriateness of care at the EOL in France and the US (Curtis et al. 2017; Le Guen and Tobin 2016; Morin and Aubrey 2015; Pivodic et al. 2014; Sérézal et al. 2016; Teno et al. 2013). Few researchers, practitioners, patients or advocates are satisfied with EOL care in the US.

### *3.1 The Cost of Dying*

Health care spending is concentrated at the EOL. Studies in Europe and the United States conclude that proximity to death – not age – leads to an increase in health care spending (Moon 1986; Zweifel et al. 1999). Claims about the relationship between population aging and health care expenditure often confuse the cost of living with the cost of dying (Seshamani and Gray 2004; Stearns and Norton 2004; White 2011, 2007; Zweifel et al. 1999). In France, although aggregate per capita health care expenditure is lower than in the US, the percentage of total health spending, excluding long-term care, in the last year of life, is higher – 8.5% in contrast to 7.1% in the US (French et al. 2017).

**Table 1.** Age distribution of population 65+: France and US, 2013

| | **France** | | **U.S.** | |
|---|---|---|---|---|
| **Age** | **Number** | **%** | **Number** | **%** |
| 65 to 69 years | 3,164,486 | 5.0 | 14,437,000 | 4.6 |
| 70 to 74 years | 2,318,433 | 3.6 | 10,264,000 | 3.3 |
| 75 to 79 years | 2,186,894 | 3.4 | 7,598,000 | 2.4 |
| 80 to 84 years | 1,837,760 | 2.9 | 5,692,000 | 1.8 |
| 85 years and over | 1,794,352 | 2.8 | 5,296,000 | 1.7 |

Sources: For France: INSEE, population estimates data downloaded from pyramids of metropolitan France; https://www.insee.fr/en/statistiques/2418108. For the US: US Census; https://www.census.gov/data/tables/2013/demo/age-and-sex/2013-age-sex-composition.html.

Questions about whether the high level of spending at the EOL is a "problem" that requires a policy response, and what factors influence this spending, are matters of dispute. Since a small percentage of the population of any country die in any given year, EOL spending represents a small portion of overall spending (Gusmano and Allin 2011). Recent evidence from wealthy Organization of Economic Cooperation and Development (OECD) countries suggests that high aggregate EOL spending in all countries is due to the degenerative effects and increasing prevalence of chronic disease, not to heroic efforts in the last months or days of life (French et al. 2017). This evidence is consistent with a study that found spending at the EOL, among Medicare beneficiaries, to be higher among "young-old" beneficiaries aged 65–74 than among older beneficiaries (Moon 1986). Similarly, a comparative analysis of the treatment of heart disease found that, adjusting for need, surgical interventions in France and the US declined significantly after the age of 75 (Weisz et al. 2007).

Evidence that neither France nor the US devote a high proportion of health care expenditure to the older old (>75 years of age) at the EOL is important, but does not necessarily conflict with the concern that spending at the EOL fails to respond adequately to patient needs and may reflect practices that are at odds with their espoused values – inappropriately substituting the goal of caring with the goal of life extension irrespective of quality of life (Brown 2012; Callahan 1990).

### 3.2 Responsiveness to Patient Values

Beyond cost concerns, there is substantial evidence that care at the EOL often fails to respond to the values of patients and their families and, in some cases, may involve the use of interventions that offer little clinical benefit (Callahan and Nuland 2011). Effective advance care planning helps to prepare for EOL care scenarios and enables patients and families to advocate for care that is consistent with their values. In the US, only 60 per cent of a nationally representative sample of Medicare beneficiaries had discussed their preferences regarding EOL medical treatment (Kale et al. 2016). In addition to a better quality of life near death, EOL care discussions are associated with lower healthcare costs in the last week of life (Zhang et al. 2009). A frequent complaint about care at the EOL is that most people die in hospitals, even though surveys indicate a preference to die at home without invasive interventions that would result in only a few additional days of life (Groff et al. 2016). As Groff et al. (2016) explain, "despite this consistency in EOL preferences, there is wide regional variation in the intensity of, expenditures on, and locations of care provided during the last 6 months of life". Teno et al. (2018) found that, between 2000 and 2015, the percentage of Medicare beneficiaries who died in an acute care hospital declined substantially, but the use of intensive care and the rate of health care transitions between hospitals and other care settings increased during the last month of life.

Critics of the US health care system argue that such findings "work(s) against good EOL care" (Callahan 2012). Daniel Callahan argues that "the culture and ethos of hospitals is biased toward aggressive care" and this works against "the control of pain, the avoidance of unnecessary diagnostic and treatment procedures, well-coordinated care, and family satisfaction" (Callahan 2012). High hospitalization rates and number of days in ICUs are, in Callahan's view, evidence that the goals of medicine are often at odds with the value of caring. In his book *What Kind of Life?*, he notes that "the technical skills they [medical professionals] deploy are impersonal, directed to organ and system failures, to the particularities of human suffering … the enterprise itself is so decisively oriented toward cure, toward aggressive action, toward mastery of the body. That bias pushes, and must push care to the side. Care will only become central if, and when, medicine shifts its goals and ends" (Callahan 1990, p. 148). We should not conflate limiting aggressive intervention at the EOL with abandonment or a failure to care for patients. On the contrary, intensive care of this sort gets in the way of genuine caring (Callahan 1990; Callahan and Nuland 2011).

The idea that EOL care is often marked by excessive and inappropriate care use is broadly shared (Predergast et al. 1998). But these problems are not unique to the US (Callahan 2012; Chin et al. 2014). In France, recent studies have identified a similar set of problems. As in the US, French surveys find that most people express a preference for dying at home, but most people die in hospitals (Pennec et al. 2015). Within hospitals, there are concerns that medical staff are inadequately attentive to the preferences of older patients. A survey of over 2,000 patients 80 years and over, with decision-making capacity, found that most are not consulted before admission to ICUs (Le Guen and Tobin 2016). Although Le Guen and colleagues provide no evidence that older patients objected to placement in the ICU, they argue that the routine failure to seek patient input is inconsistent with international guidelines and French law and demonstrate a lack of respect for the autonomy of these patients among French physicians. They also note variation in practice by hospitals, but could not determine whether it reflected differences in institutional policies and training or individual physician practice (Le Guen and Tobin 2016).

### *3.3 Failure to Deliver Palliative Care*

Although many patients still fail to receive palliative care that may alleviate suffering, the use of hospice services in the US has increased substantially in recent years (Teno et al. 2018). Between 2000 and 2015, "hospice use increased from 21.6% to 50.4% of Medicare fee-for-service beneficiaries and the percentage of those receiving hospice services for three days or less declined as well (Teno et al. 2018, p. 267). Increasing the use of hospices is often touted as a substitute for high intensity care at EOL by offering patients and families counseling and pain management. Teno and colleagues, however, argue that the growing use of hospices for short periods following acute hospitalization represents "an 'add-on' to a growing pattern of more utilization of intensive services at the end of life" (Teno et al. 2013).

For decades, policy makers and advocates have emphasized the use of legal documents to improve the responsiveness of the health care system to patient preferences, but the results have been disappointing (Callahan 2012). Although the use of written advance directives is associated with lower rates of feeding tube insertions (Teno et al. 2013), few adults in the US have some form of advance directive and even when people complete these legal documents, their physicians often don't know about them. Furthermore, advance directives usually fail to provide sufficient instructions. They tend to be too vague to be clear (for example, if one is close to death) or too medically specific to be helpful (for example, if one is in a persistent vegetative state).

A look at the French situation makes it clear that the US is not unique in this respect. Between 1987 and 2013, the number of palliative care beds in French hospitals increased from 150 to 1,412 (Morin and Aubry 2015). The number of home-based palliative care teams also increased, though not nearly as fast (Morin and Aubry 2015). Despite this growth in availability of palliative care in France, recent studies suggest that supply is still inadequate to meet the growing need. For example, a nationwide study of patients with metastatic melanoma found a high prevalence of aggressive cancer care use during the last three months of life (Sérézal et al. 2016). The palliative care needs of these patients were assessed in more than 80 per cent of cases, but only about 17 per cent died in a palliative care unit. These findings are consistent with a multi-country study of EOL care among patients who died from one of ten underlying conditions (including metastatic cancer and nine other life-limiting illnesses) often used to identify patients in need of palliative care (Povidic et al. 2016). This study found that fewer than a third of patients who died in French hospitals received palliative care (Povidic et al. 2016).

### *3.4 Unexplained Variation*

In 1973, Wennberg and Gittelsohn (1973) published a remarkable study of health care use and spending in Vermont. They documented wide unexplained variations in medical resources, medical expenditures and use of medical care by 13 different "hospital service areas". For more than 40 years, Wennberg and colleagues have continued to document enormous variations in health care that are not easily explained by patient needs or outcomes. One dimension of this work inspired the metrics on which we rely for analyzing variation in EOL care, by geographic area and hospital.

## 4. Methods

### *4.1 Data Sources*

We rely on Medicare data from the Medicare Provider Analysis and Review Files (MedPAR) tabulated by the *Dartmouth Atlas of Health Care*. For France, we conducted original analysis on data of a random sample of patients from the French NHI information system (Système National d'Informations Inter Régimes de l'Assurance Maladie – SNIIRAM) which includes data from all hospitals (public and private) (Programme de Médicalisation des Systèmes d'Information – PMSI).

### *4.2 Descriptive Metrics*

We compare the average number of days in acute inpatient hospitals per decedent, the percentage of these patients with an ICU stay, the average number of days in an ICU, and the average number of different physicians seen – all within the last six months of life. The denominators for these rates are, in France, decedents among the population 65 and over and, in the US, decedents among the Medicare population age 65 and over. The numerators refer to acute inpatient hospital days, ICU days or physician consultations within the six-month period prior to death. In both France and the US, ICU admission is determined by the presence of an ICU day indicator (including coronary care units – CCUs) in the filed claims.

Over a decade ago, Wennberg et al. (2004) examined variation in EOL care among the 77 "leading" academic medical centers (AMCs) in the US, according to *U.S. News & World Report*. The Dartmouth Atlas of Health Care (2010) continues to update this work. To capture variation in EOL care within each country, we present the principal French AMCs (31 Centres Hospitaliers Universitaires (CHU), with 23 AMCs in the US for which the Dartmouth Atlas of Health Care presents data from 2010.

## 5. Findings

Unless otherwise noted, our findings cover the period, 2009–2014, during which the total number of hospitalizations per 1,000 decedents in the last six months of life fell from 1,418 to 1,230 in the US, but increased from 2,225 to 2,339 in France (Figure 1).

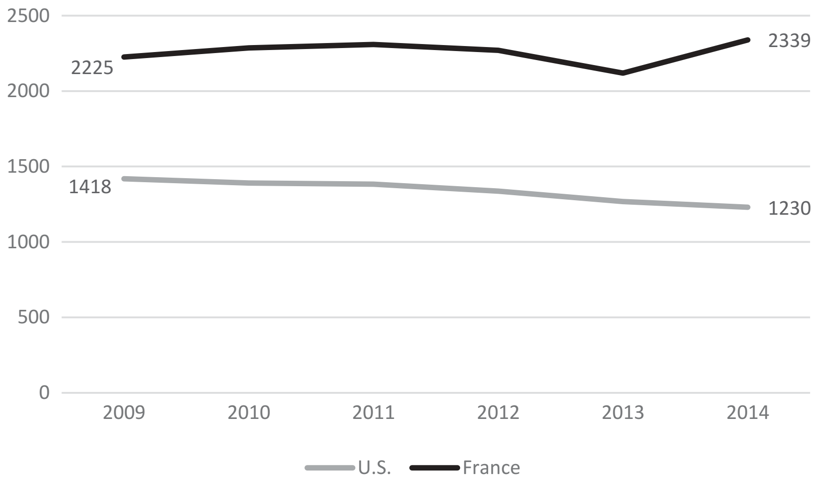
Similarly, the average number of inpatient hospital days among decedents in the last six months of life fell from 10.4 to 8.4 in the US(Figure 2). In France, the average number of inpatient hospital days among these patients (about 17) remained largely unchanged and is more than 70 per cent higher than in the US (Figure 2).

Although French decedents spend more days in the hospital, they spend fewer days in an ICU, over the last six months of life, than decedents in the US (Figure 3). Decedents in the US spend about three times as many days in an ICU during the last six months of life than their counterparts in France (Figure 3). Moreover, the percentage of decedents spending seven or more days in an ICU is also higher in the US than in France (Figure 4).

In contrast to their use of hospitals, decedents consulted a larger number of different physicians during the last six months of life in the US (Figure 5). The average number of these different physicians seen – both in and out of hospitals – in the US increased from 9.8 to 10.5. In France, this number decreased slightly from 4.4 to 4.1.

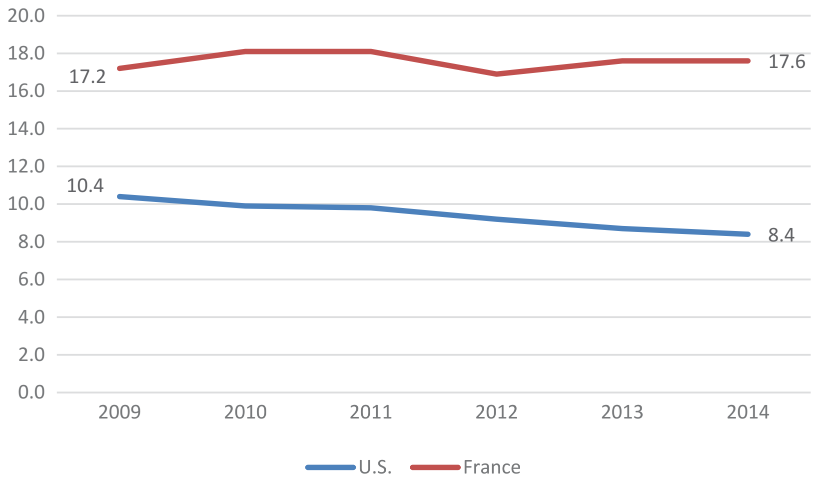
Our comparison of these indicators among AMCs indicates that there is greater variation among French hospitals (Tables 2 and 3). For both groups of AMCs, we

**Figure 1.** Inpatient discharges per 1000 decedents during the last six months of life: France and the US, 2009–2014



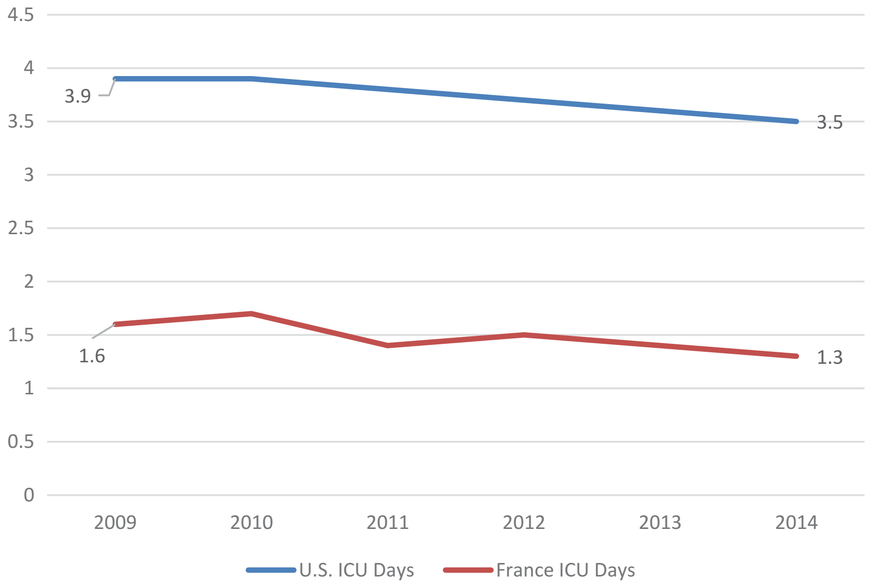
Sources: For France: NHI (Echantillon généraliste des bénéficiaires-EGB); for the US: Dartmouth Atlas of Health.

**Figure 2.** Average number of inpatient hospital days among decedents during the last six months of life: France and the US, 2009–2014



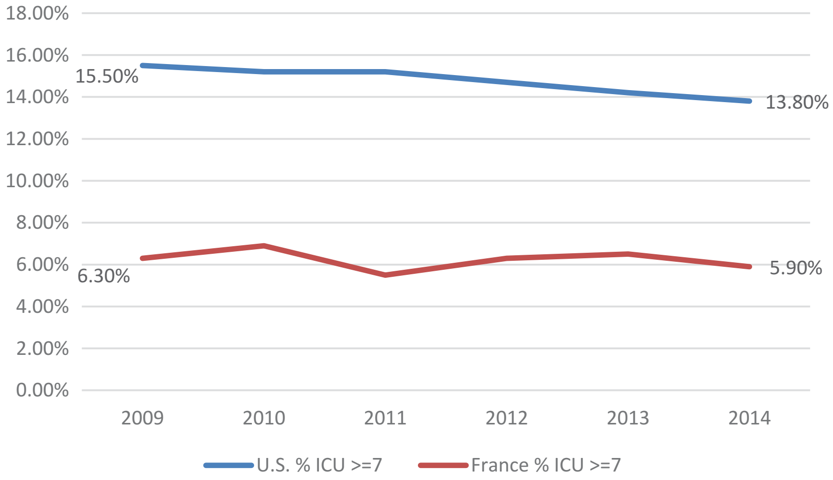
Sources: For France: NHI (Echantillon généraliste des bénéficiaires-EGB); for the US: Dartmouth Atlas of Health.

**Figure 3.** Average number of days in ICU during the last six months of life: France and the US, 2009–2014



Sources: For France: NHI (Echantillon généraliste des bénéficiaires-EGB); for the US: Dartmouth Atlas of Health

**Figure 4.** Percentage of patients spending seven or more days in ICU during the last six months of life: France and the US, 2009–2014



Sources: For France: NHI (Echantillon généraliste des bénéficiaires-EGB); for the US: Dartmouth Atlas of Health.

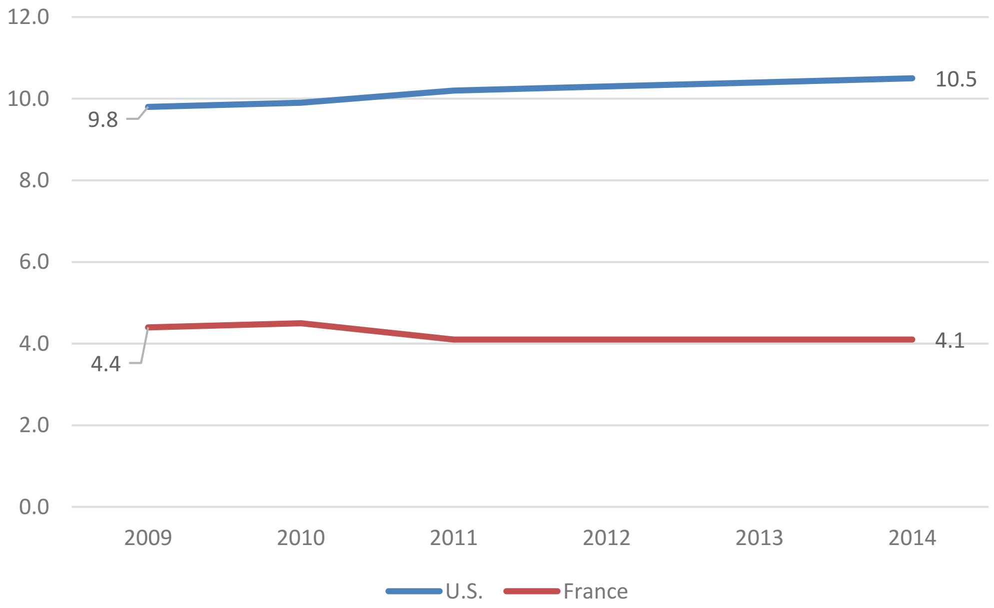
compare the average number of inpatient hospital days among decedents during the last six months of life and the percentage of hospital admissions resulting in an ICU stay. Among the 23 US hospitals, the number of inpatient days varies from a low of 8.6 days to a high of 20.2 days (Table 2). The percentage of hospital stays resulting in time spent in an ICU varies from 11.9 to 40.6 per cent (Table 2).

Among the 31 French AMCs, the average number of inpatient days varies from 13.9 to 37.3 – a spread that indicates greater variation among French AMCs than among their counterparts in the US (Table 3). The percentage of decedents with an ICU admission in the last six months of life varies from 12 to 67 (Table 3).

## 6. Discussion and Conclusions

We find that French decedents spent more days in the hospital during the last six months of life than their counterparts in the US, but French decedents are less likely to be transferred to an ICU or to spend seven or more days there. In contrast to these findings on hospitalization, but consistent with our findings regarding the use of ICUs, Medicare decedents consulted with a higher number of different physicians during the last six months of life than their counterparts in France. Finally, the variation in inpatient hospital days and ICU stays of decedents, which we document among 31 French AMCs, exceeds that among their US counterparts.

**Figure 5.** Average number of different physicians seen by decedents during the last six months of life: France and the U, 2009–2014



Sources: For France: NHI (Echantillon généraliste des bénéficiaires-EGB) and ambulatory care data (Système National d'Informations Inter Régimes de l'Assurance Maladie); for the US: Dartmouth Atlas of Health.

### *6.1 Limitations*

One limitation of our analysis concerns the comparability of ICUs in the US and France. Our finding that French patients are less likely to be transferred to an ICU is consistent with the overall pattern of ICU use in France and the US. France has about half the number of ICU beds per capita than the US. These beds represent less than 3 per cent of acute hospital beds, compared with over 9 per cent in the US. The significantly lower percentage of patients admitted to an ICU for EOL care in France probably reflects this difference in supply. The question, however, that we cannot answer is whether the great diversity of ICUs in France and the US provide, on average, the same level and intensity of service. It is a complicated question about which there is surprisingly little information. In the US, critical care services are defined in terms of staffing ratios. They represent beds "provided in separate units with round-the-clock nursing, equipment necessary to care for the critically ill, and a nurse-to-patient ratio of no greater than 1 to 2" (Wunsch et al. 2008, p. 2788). In France, hospital-based critical care is defined in terms of patient needs. According to French law, "critical care is for patients presenting or susceptible to acute multi-organ failure, directly threatening life and necessitating auxiliary support" (Wunsch et al. 2008, p. 2788).

Rodwin et al. (1992) found that nurse staffing ratios per bed in Paris were about half that in New York City, among two public hospitals. More recently, Bakhru et al. (2016) compared

**Table 2.** Inpatient hospital days and hospitalizations with an ICU stay for decedents among 23 academic medical centers in the US, 2010

| **Academic medical centers** | **Average number of inpatients hospital days among decedent, last 6 months of life** | **Percentage of decedents with ICU admission, last 6 months of life** |
|---|---|---|
| Cedars-Sinai Medical Center | 19.0 | 38.2 |
| NYU Langone Medical Center | 19.1 | 23.8 |
| Mount Sinai Medical Center | 18.3 | 17.0 |
| Ronald Reagan UCLA Medical Center | 16.8 | 40.6 |
| New York-Presbyterian Hospital | 20.2 | 16.2 |
| University of Pittsburgh Medical Center | 12.8 | 23.6 |
| Northwestern Memorial Hospital | 14.9 | 29.1 |
| Massachusetts General Hospital | 15.5 | 17.9 |
| Cleveland Clinic | 16.0 | 26.2 |
| Hospital of the University of Pennsylvania | 14.7 | 19.8 |
| University of Michigan Medical Center | 14.3 | 11.9 |
| Brigham and Women's Hospital | 14.9 | 19.4 |
| Johns Hopkins Hospital | 13.6 | 19.9 |
| Indiana University Health (Clarian Health) | 12.6 | 21.2 |
| Barnes-Jewish Hospital/Washington University | 14.1 | 17.8 |
| UCSF Medical Center | 13.2 | 22.7 |
| Duke University Medical Center | 13.6 | 22.1 |
| Vanderbilt University Medical Center | 11.5 | 21.1 |
| University of Washington Medical Center | 11.3 | 20.5 |
| Stanford Hospital and Clinics | 11.4 | 33.1 |
| St. Mary's Hospital, Mayo Clinic | 9.9 | 16.8 |
| Scott & White Memorial Hospital | 8.9 | 15.7 |
| University of Utah Health Care | 8.6 | 17.0 |
| *Standard Deviation* | *3.78* | *7.11* |

Source: Dartmouth Atlas of Health Care.

the structure of ICUs in four countries: France, Germany, United Kingdom and the US. They found that nurse staffing ratios per patient, among ICUs, in the 150 French hospitals they surveyed, were 1:4 in 66 per cent of the hospitals and 1:3 in 24 per cent of the hospitals. In the US, the ratios were 1:2 in the 500 hospitals surveyed. Yet while the nurse staffing ratios suggest that ICU stays in France do not represent the same intensity of care as in the US, the same study indicates that the percentage of French ICUs with dedicated staffing by physical therapists is more than twice that in the US. Also, the percentage of units in which an intensivist physician assumes primary responsibility for patient care is almost twice as high in the US as in France (Bakhru et al. 2016). In the next phase of our analysis, we will investigate whether ICU patients with comparable diagnoses receive a comparable number of interventions, including mechanical ventilation or intubation. We know that the leading causes of death among patients in France and the US are comparable (heart disease, cancers, respiratory failure and dementia are among the leading causes of death in both countries), but for now, we can only conclude that in France patients near the EOL are more likely to be hospitalized, but less likely to spend time in an ICU.

A second limitation of our analysis concerns the comparability of physician care in the US and France. In many ways, it is not surprising that Medicare patients in the US consult

**Table 3.** Inpatient hospital days and hospitalizations with an ICU stay among 31 academic medical centers in France, 2014*

| **Academic medical centers** | **Average number of inpatient hospital days among decedents, last 6 months of life** | **Percentage of decedents with ICU admission, last 6 months of life** |
|---|---|---|
| 1 | 13.9 | 32.9 |
| 2 | 25.0 | 45.5 |
| 3 | 22.6 | 25.8 |
| 4 | 24.1 | 30.6 |
| 5 | 18.4 | 23.9 |
| 6 | 15.2 | 40.0 |
| 7 | 26.3 | 67.4 |
| 8 | 30.0 | 16.3 |
| 9 | 17.5 | 21.4 |
| 10 | 25.0 | 35.0 |
| 11 | 19.4 | 26.0 |
| 12 | 24.1 | 42.2 |
| 13 | 23.3 | 45.8 |
| 14 | 26.9 | 36.2 |
| 15 | 20.4 | 25.5 |
| 16 | 15.8 | 19.2 |
| 17 | 17.3 | 39.5 |
| 18 | 18.3 | 31.3 |
| 19 | 24.4 | 35.7 |
| 20 | 21.9 | 54.8 |
| 21 | 23.3 | 37.7 |
| 22 | 22.5 | 12.0 |
| 23 | 25.3 | 50.0 |
| 24 | 20.1 | 37.0 |
| 25 | 25.1 | 35.0 |
| 26 | 19.7 | 26.0 |
| 27 | 20.0 | 42.9 |
| 28 | 33.7 | 25.7 |
| 29 | 25.3 | 23.8 |
| 30 | 37.3 | 55.3 |
| 31 | 27.6 | 35.7 |
| *Standard Deviation* | *5.14* | *12.24* |

Source: NHI (Echantillon généraliste des bénéficiaires-EGB).
* To be in compliance with French data use policy, we are unable to name the hospitals in the table.

with a higher number of different physicians during the last six months of life than their counterparts in France. This reflects the overall pattern of physician care in France and the US. France relies more on primary care physicians than the US, which is dominated by specialists (Gusmano et al. 2010). This alone explains some of the differences we observe because older patients at the EOL, many of whom have multiple co-morbidities, are more likely to be treated by specialists in the US and despite the growth of full-time salaried hospitalists in US hospitals, there are far more specialists in US hospitals paid on a fee-for-service basis (so-called “attending” physicians), who are called in for many consultations in the course of patient hospitalizations. In addition, as public and private payers have attempted to reduce hospital lengths of stay in the US, hospitals have responded by providing more services before patients are discharged (Teno et al. 2018). This may account for the increase in the number of physicians seen during the last six months of life, but requires further investigation. Likewise, although French hospitals, which rely on prospective case-based payments under NHI, face similar financial incentives, they have not responded in similar ways.

A third limitation concerns the interpretation of the variation in hospital and ICU use by decedents among leading AMCs. The variation we document among 23 US AMCs in 2010 is nearly identical to the level of variation documented by Wennberg et al. (2004) when they compared variation in EOL care among 77 AMCs. The variation we document among 31 French AMCs exceeds that among their US counterparts. These hospital comparisons do not adjust for the severity of illness among patients; nor are they based on clinical data. Thus, we make no claims about clinical appropriateness. But as Wennberg and colleagues have emphasized, patients in the last six months of life are all severely ill, so the high level of variation we document across French AMCs is striking.

### *6.2 Policy Learning*

Despite the limitations noted above, the comparative metrics we have presented on patterns of EOL care in the US and France make it easy to refute claims by those political elites and members of the public who believe that EOL care is rationed in NHI systems such as France. If, on the other hand, one considers the use of ICU stays and consultations with multiple different physicians, then it does seem that more intensive services are provided in the US. However, since US policy, even more than in France, has promoted the use of advance directives to better align EOL treatment with the preferences of patients and families, then is seems that French practice may resemble more closely the aspirations of many Americans. Yet this conclusion would hardly be satisfying to advocates of providing palliative care to those who want it at the EOL because in both the US and France the demand for palliative care exceeds supply. Policy makers, physicians and patients – in both of our countries – continue to be frustrated in their attempt to meet the challenge of providing patients improved access to palliative care at the EOL.

While comparative metrics of the kind we have presented enable concerned policy elites, practitioners and patients to reexamine their own problems in light of experience abroad, they do not reveal how possible models may be adapted, and never will. Based on our comparative analysis of US and French experience, it appears that macro-level health policies, e.g. influencing the supply of specialists and ICU beds, may have a greater impact on EOL care than micro-level policies, e.g. advanced directives, which would change patient and physician behavior so as to improve access to palliative care. Of course, in the longer run things change, which highlights the importance of transcending comparative metrics and focusing on culture, organizations and institutions, to which we alluded at the outset of this paper.

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