

# State funeral regulations: inside the black box

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**Abstract** This study estimates the effects of state regulations affecting funeral markets. It accounts for multiple major categories of regulations and demand inducement as well as direct price effects. While concurring with prior studies that find ready-to-embalm regulations increase funeral costs and decrease the percentage of cremations, this study finds that several other state regulations are associated with significantly higher receipts per death. The regulation with the largest apparent effect on average funeral costs is the direct disposition license, which is associated with a \$1250 reduction in receipts per death. Restrictive regulations affect the revenues of funeral homes and services to a much greater extent than they affect the revenues of cemeteries and crematories, and in some cases the regulations even increase funeral homes and services' share of industry revenues. Thus, it appears that funeral homes receive most of the benefits of regulation.

**Keywords** Funeral · Regulation · Funeral regulation · Funeral director · Cemetery · Occupational licensing · Death care

**JEL Classification** K23 · L51 · L84 · L88 · H73

## 1 Introduction

The cost of death care is a big concern in the United States. Consumers spent approximately \$15 billion on death care in 2007, according to the most recent figures available

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from the US Economic Census. In a 2010 survey, consumers who said they wished they could change something about their recent funeral home experience overwhelmingly named “price” as the factor they would change (FAMIC 2012, 53). The Federal Trade Commission was so concerned about death care costs that it adopted its Funeral Rule in 1982. Among other provisions, the Funeral Rule requires funeral directors to maintain and furnish to consumers an itemized price list that includes the separate charge for the funeral director’s basic services. Since 1994 the rule has prohibited funeral directors from imposing additional charges if consumers purchase funeral merchandise (such as caskets) elsewhere.

Courts too have seen their share of activity generated by disputes over death care costs, and particularly regulations that may contribute toward those costs. Federal courts have invalidated several states’ requirements that only funeral directors can sell caskets as violations of the U.S. Constitution’s due process and equal protection clauses.<sup>1</sup> In these cases, courts declared that naked protectionism of an intrastate economic interest (funeral directors) from the plaintiffs (casket sellers who are not funeral directors) does not qualify as a legitimate state interest.<sup>2</sup> In a recent case successfully challenging a Minnesota statute that required all funeral homes to have embalming rooms, the plaintiffs noted that an embalming room would cost \$30,000 or more even if it were never used.<sup>3</sup> Legal commentators have suggested that some state funeral regulations might be vulnerable to challenge under the dormant Commerce Clause as well, if the regulations affect electronic commerce in funeral goods or have other interstate effects (Agarwal and Ellig 2006).

In addition to being of obvious interest to consumers, the effects of state funeral regulations on death care costs could thus be of interest to courts for several reasons. If regulations increase consumer costs, then courts may want to consider seriously whether protection of incumbent firms is the sole motive for the regulation. If consumers are among the plaintiffs challenging the regulations, evidence showing how the regulations affect consumer costs could play a significant role in determining whether consumers are actually harmed. If a state proffers a consumer protection defense in support of a challenged regulation, information about the regulation’s actual effect on consumer costs could help the court determine whether the regulation protects or harms consumers. Finally, if a state’s funeral regulations were to be challenged under the dormant Commerce Clause, then empirical analysis of the regulation’s effects on death care costs and the volume of commerce could help determine the size of any interstate effect, if coupled with evidence that consumers cross state lines to purchase funeral goods and services.<sup>4</sup>

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<sup>1</sup> *St. Joseph Abbey v. Castille*, 712 F.3d 215 (2013); *Craigmiles v. Giles*, 312 F.3d 220m (6th Cir. 2002); *Casket Royale v. Mississippi*, 124 F.Supp. 2d 434 (S.D. Miss. 2000).

<sup>2</sup> One casket case held that naked protectionism is a legitimate state interest. See *Powers v. Harris*, 379 F.3d 1208 (2004).

<sup>3</sup> See Findings of Fact, Conclusions of Law, and Order for Judgment, *Verlin Stoll et. al. v. Minnesota Department of Health*, State of Minnesota, County of Ramsey, Second Judicial District, Civil File No. 62-CV-12-443 (Oct. 9, 2013), 16.

<sup>4</sup> For example, the author’s parents resided in Cincinnati, Ohio, all of their lives, but they are buried in a cemetery across the river in Northern Kentucky.

Published economic research suggests that some, but not all, state funeral regulations have a significant effect on death care costs. Empirical studies find that state funeral regulations can increase consumer costs directly, by limiting competition or raising production costs (Harrington and Treber 2012; Harrington 2007), or indirectly by facilitating funeral directors' efforts to sell more expensive packages of services (aka "demand inducement;" see Harrington 2007; Harrington and Krynski 2002). On the other hand, death care costs in states that prevent parties other than funeral directors from selling caskets appear to be about the same as death care costs in states with no such restriction (Chevalier and Scott Morton 2008; Sutter 2007).

Prior studies, while providing valuable information, nevertheless have several drawbacks. No prior study assesses the effects of major state licensing, business structure, and merchandise sales regulations together. Most research has addressed either individual merchandise restrictions (Sutter 2007, 2005; Chevalier and Scott Morton 2008) or licensing and business structure regulations (Harrington and Treber 2012; Harrington 2007; Harrington and Krynski 2002), but not both. In addition, the only merchandise restriction studied previously is state restrictions on casket sales by parties other than funeral directors. Complete bans on all merchandise sales by cemeteries, the most likely competitor to funeral homes for sales of caskets and other merchandise, have received no attention. Finally, with one exception (Harrington 2007), prior studies do not explicitly account for the possibility that the same regulations might simultaneously affect both death care costs that stem from price increases and costs that stem from demand inducement by funeral directors.

This study addresses these issues by including numerous death care regulations that pertain to sales of merchandise, licensing requirements, and business structure. It finds that some regulations of all three types are correlated with death care costs. For example, requiring funeral directors to be embalmers is associated with a \$342–390 increase in receipts per death for the death care industry. Because this regulation is so widespread, it is the most expensive regulation, costing consumers an estimated \$400 million annually. A direct disposition license, which allows cremators to transport bodies without having to be licensed funeral directors, is associated with a \$1246–1251 reduction in receipts per death for the death care industry. These figures imply that if all states offered direct disposition licenses, consumers could save approximately \$2.8 billion annually. The prohibition on cemetery sales of funeral goods is associated with a \$1268–1547 increase in average receipts per death, costing consumers \$255–279 million annually.

By examining the potential effects of regulation on funeral industry revenues and cremations, this study considers both major ways funeral regulations might affect consumer costs. The requirement that funeral directors be embalmers and the cemetery goods prohibition are associated with higher receipts per death; direct disposition licenses and the requirement that crematories must be in cemeteries are associated with lower receipts per death. But the first two regulations are also correlated with a lower cremation percentage, and the second two are correlated with a higher cremation percentage. In addition to affecting the prices of services, these regulations may well affect demand inducement by funeral directors, and the demand inducement effects appear to be relatively large.

Finally, by examining receipts per death for components of the death care industry, this study finds substantial evidence that funeral directors, rather than cemeteries and crematories, are the primary beneficiaries of most restrictive regulations. Regulations have the quantitatively largest and most statistically significant effects on the revenues of the funeral homes and services segment of the industry. In some cases, restrictive regulations even appear to increase the share of revenues received by funeral homes and services.

Section 2 of this paper outlines the economic theories suggesting how funeral regulations may affect death care costs and summarizes prior empirical research on the topic. Section 3 explains the regulations covered in this paper and compares average death care costs in states with and without the regulations. Section 4 presents the econometric analysis and uses the results to calculate the effects of various regulations on death care costs. Section 5 summarizes the paper's findings, concluding that state funeral regulations may have a larger effect on the cost of dying than previous research indicates.

## 2 Regulation and death care costs

Funeral industry regulations could affect consumers' death care costs directly, via higher prices, or indirectly, by facilitating "demand inducement" that prompts consumers to purchase a more expensive package of funeral goods or services.

### 2.1 Higher prices

First and most obviously, regulations could increase consumer costs directly by creating barriers to entry or increasing production costs. McChesney (1990, pp. 14–15) identifies state regulation as the principal barrier to entry into the death care industry, arguing that entry is otherwise easy. Licensing requirements that include multiple years of training or require funeral directors to be trained as embalmers are straightforward examples of regulations that could raise costs. Prohibitions on mortuary-cemetery combinations, or requirements that crematories must be located in cemeteries, exclude competitors with specific types of business models that may facilitate lower costs or better service. On the other hand, regulations affecting combinations might also lower costs by preventing funeral directors from steering customers to their own (higher-priced) cemeteries or crematories. A direct disposition license, which allows the holder to transport a body, cremate it, and transport the remains to the family without a funeral director's license, is an example of a regulation that reduces entry costs.

Existing empirical research finds that some of these types of regulations are associated with higher prices. Harrington (2007) estimates that regulations requiring all funeral homes to be capable of embalming bodies increase the price of simple cremations by \$313 and the price of traditional funerals by \$546 per burial. He finds that funeral expenditures per burial increase by \$212 for each year of required training for funeral directors. Harrington and Treber (2012) estimate that cemetery-funeral home combinations can handle a funeral at a cost that is \$492–880 less than a stand-alone

funeral home, implying that state laws banning cemetery-funeral home combinations increase the cost of producing funerals.

Regulations that give funeral directors a monopoly on the sale of caskets or other funeral merchandise, or that prevent specific entities from selling merchandise, might also increase funeral costs by reducing competition. The empirical literature on this topic has focused on caskets. Although caskets are available from third parties at lower cost than from funeral directors (Sutter 2005), the literature finds the bans have no effect on average death care costs, most likely because of the “one monopoly rent” phenomenon. Funeral directors who face competition in the sale of caskets can simply cut their casket prices and then extract monopoly profits by increasing the prices they charge for their other goods and services (Chevalier and Scott Morton 2008; Sutter 2007). All customers would be affected by these price changes, because the FTC’s Funeral Rule prohibits funeral directors from selectively imposing additional charges on customers who obtain their caskets elsewhere.

No prior empirical study has assessed whether regulations prohibiting cemeteries from selling funeral merchandise have any effect on death care costs. Cemeteries are arguably the businesses best positioned to compete with funeral directors in the sale of merchandise such as caskets, vaults, markers, and urns. In 2010, 92 % of Americans aged 40 and above who planned a funeral indicated that they used a funeral director; 52 % used a cemetery. Roughly the same percentage of consumers purchase grave markers from cemeteries as from funeral homes (FAMIC 2012, pp. 30–33). Unlike the situation with online competitors or big box retailers that sell caskets, buying funeral merchandise from a cemetery does not require the consumer to go out of his or her way to purchase from a “nontraditional” source. Cemeteries may thus enjoy economies of scope in selling other merchandise along with burial services. Cemeteries may also have economies of scale; since there are generally more funeral homes than cemeteries, a typical cemetery handles more burials than a typical funeral home handles funerals. Nevertheless, several populous states—New York, New Jersey, and Massachusetts—prohibit cemeteries from selling funeral merchandise. For example, New York’s law explicitly prohibits cemeteries from selling any monuments (other than flush bronze markers), caskets, burial vaults or other grave liners.

## 2.2 Demand inducement

Regulations can also alter consumer costs by facilitating or inhibiting “demand inducement” (Harrington and Krynski 2002). When poorly-informed consumers rely on the seller for expert advice and information, the seller has an opportunity and incentive to persuade the customer to purchase goods or services that a better-informed customer would decline to buy. For funeral directors, this means steering customers away from low-cost cremations and toward traditional funerals, which involve embalming, caskets, public viewing, and other services that funeral directors traditionally provide. The Federal Trade Commission’s (1978) report justifying the Funeral Rule argued that funeral directors steer consumers away from cremations because cremations typically use fewer of the funeral director’s services (FTC 1978, p. 57).

Regulations that create barriers to entry into the funeral home industry could facilitate demand inducement by reducing competition among funeral directors, so consumers are less likely to access competing streams of information from competing funeral directors. To the extent that regulations such as training or embalming room requirements create greater uniformity in the services funeral directors offer, they may diminish competition even if consumers have access to multiple competitors.

Regulations that prevent cemeteries or other vendors from selling caskets or other funeral merchandise could likewise facilitate demand inducement by depriving consumers of alternative sources of information about death care options. In addition to funeral homes, cemeteries are the other main businesses consumers are likely to contact to make death care arrangements. Many consumers may have contact with a cemetery long before they need a funeral director's services, as a recent survey indicated that half of respondents or their families already own cemetery property or a grave site (FAMIC 2012, p. 65). Daniel (1989) finds that consumers who receive price information earlier in the purchasing process tend to spend less on funerals. If cemeteries can also sell funeral merchandise and arrange for cremations, they are more likely to invest in providing consumers with information about these options. A state that prohibits cemeteries from selling funeral merchandise would likely see fewer consumers informed about alternatives to traditional funerals, reducing demand for cremations and increasing demand for traditional funerals. Since cremations are less expensive than traditional funerals, death care costs would be higher in states that prohibit cemeteries from selling funeral merchandise. Similar logic may apply to regulations that prohibit parties other than funeral directors from selling caskets, but consumers likely have to make additional efforts to purchase from these nontraditional suppliers and many are not comfortable with the idea of purchasing funeral goods from an independent retailer or over the Internet (FAMIC 2012, p. 98). Therefore, merchandise sales prohibitions that apply specifically to cemeteries might affect demand inducement even if regulations that apply to independent retailers have no such effect.

An alternative hypothesis is that some or all of these regulations protect consumers from demand inducement by keeping out unscrupulous funeral directors, instilling a professional ethos in funeral directors, and preventing other sellers who do not share that ethos from advising consumers (Harrington and Krynski 2002, p. 207). Another hypothesis is that demand inducement rarely occurs because most consumers are generally well-informed (McChesney 1990). Both hypotheses suggest that empirical analysis should reveal no demand inducement effect associated with state regulations.

There is some empirical evidence that stricter state regulation facilitates demand inducement in funeral markets. Harrington and Krynski (2002) find that a smaller percentage of deaths are cremated in states whose laws create greater barriers to entry into funeral directing, and customer characteristics have less influence on the cremation percentage in the more heavily regulated states—results consistent with the theory that funeral directors steer more customers away from cremation when the market is less competitive. States which require crematories to be located in cemeteries have higher cremation percentages. Ready-to-embalm laws, meanwhile, are associated with lower cremation percentages (Harrington 2007, p. 205). No study has tested to

see whether restrictions on casket sales or merchandise sales by cemeteries have a demand inducement effect; the analysis below fills that gap.

### 3 Regulations in this study

This study considers eight types of regulations that might affect barriers to entry, production costs, or demand inducement in the death care industry:

*Casket restriction indicates* whether the state enforces laws that restrict sales of caskets by parties other than funeral directors

*Cemetery goods prohibition indicates* whether the state prohibits cemeteries from selling all funeral goods. This includes not just caskets, but also markers, vaults, urns, flowers, etc.

*Embalmer indicates* whether the state requires funeral directors to be embalmers

*Embalming room indicates* whether the state requires all funeral homes to have embalming rooms

*Crematories must be in cemeteries indicates* whether the state requires that crematories be located in cemeteries. Several states with this regulation on the books have crematories operating outside of cemeteries that were grandfathered. This variable is coded as “1” only if there are no grandfathered crematories outside of cemeteries.

*Mortuary-cemetery combinations prohibited indicates* whether the state prohibits mortuary and cemetery combinations<sup>5</sup>

*Training indicates* the number of years of training required for funeral directors, including both formal education and apprenticeships

*Direct disposition indicates* whether the state offers a “direct disposition license,” which allows the holder to transport bodies, cremate them, and return the remains to the family without having to get a funeral director’s license.

Table 1 shows the coding for each state. The casket restriction variable indicates whether prohibitions on sales of caskets by parties other than funeral directors are actually enforced. [Chevalier and Scott Morton \(2008\)](#) find that casket sales restrictions have no effect on funeral costs; they use a list of states with restrictive laws on the books compiled by [Fulton \(2004\)](#). [Sutter \(2007\)](#) finds that casket sales restrictions sometimes affect funeral markets; he uses a shorter list based on information submitted at a Federal Trade Commission workshop that suggests only five states enforce their casket sales restrictions. Since enforcement apparently matters, this study uses the same list as Sutter.

The rest of the variables were coded by a researcher at the law firm of Blank Rome LLP, who looked up each state’s funeral industry laws and regulatory code to ascertain which restrictions applied to which segments of the industry. Some of the more common regulations have some degree of correlation with each other. For example, the states that require funeral directors to be embalmers require an average of

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<sup>5</sup> As with the regulation requiring crematories to be in cemeteries, I considered whether there are any grandfathered mortuary-cemetery combinations in states where they are prohibited, but [Harrington and Treber \(2012, p. 42\)](#) report that no such combos exist in these states.

Table 1 State funeral industry regulations

	Casket restriction	Cemetery goods prohibition	Embalmer	Embalming room required	Mortuary-cemetery combinations prohibited	Crematories must be in cemeteries	Years of training	Direct disposition license
AL	1	0	0	1	0	0	2	0
AK	0	0	0	1	0	0	2	0
AZ	0	0	1	1	0	0	4	0
AR	0	0	0	0	0	0	2	0
CA	0	0	0	0	0	0	4	0
CO	0	0	0	0	0	0	0	0
CT	0	0	1	1	1	0	3	0
DE	0	0	1	1	1	0	3	0
DC	0	0	1	1	0	0	2	0
FL	0	0	0	0	0	0	3	1
GA	0	0	1	1	0	0	3	0
HI	0	0	0	1	0	0	2	0
ID	0	0	1	1	0	0	4	0
IL	0	0	1	1	0	0	3	0
IN	0	0	1	1	0	0	3	0
IA	0	0	1	0	0	0	4	0
KS	0	0	0	1	0	0	3	0
KY	0	0	0	0	0	0	3	0
LA	1	0	0	1	0	0	3	0
ME	0	0	1	1	1	1	3	0
MD	0	0	1	1	1	0	3	0
MA	0	1	1	1	1	1	4	0



Table 1 continued

	Casket restriction	Cemetery goods prohibition	Embalmer	Embalming room required	Mortuary-cemetery combinations prohibited	Crematories must be in cemeteries	Years of training	Direct disposition license
MI	0	0	1	1	1	0	4	0
MN	0	0	1	1	0	0	4	0
MS	0	0	0	1	0	0	2	0
MO	0	0	0	0	0	0	0	0
MT	0	0	1	1	0	0	4	0
NE	0	0	1	0	0	0	4	0
NV	0	0	0	0	0	0	0	0
NH	0	0	1	1	1	0	3	0
NJ	0	1	1	1	1	0	5	0
NM	0	0	1	0	0	0	3	1
NY	0	1	1	1	1	0	3	0
NC	0	0	0	1	0	0	2	0
ND	0	0	1	1	0	0	4	0
OH	0	0	0	1	0	0	6	0
OK	1	0	1	0	0	0	4	0
OR	0	0	0	0	0	0	2	1
PA	0	0	1	1	0	0	4	0
RI	0	0	1	1	1	0	4	0
SC	1	0	0	1	0	0	4	0

Table 1 continued

	Casket restriction	Cemetery goods prohibition	Embalmer	Embalming room required	Mortuary-cemetery combinations prohibited	Crematories must be in cemeteries	Years of training	Direct disposition license
SD	0	0	1	1	0	0	4	0
TN	0	0	0	0	0	0	2	0
TX	0	0	0	1	0	0	2	0
UT	0	0	1	0	0	0	3	0
VT	0	0	0	1	1	0	1	0
VA	1	0	1	1	0	0	3	0
WA	0	0	0	0	0	0	3	0
WV	0	0	1	1	0	0	4	0
WI	0	0	1	1	1	0	4	0
WY	0	0	0	1	0	0	0	0

Coding shown is for 2007. For 2002, there is just one difference: Texas required crematories to be in cemeteries in 2002

3.6 years of training, whereas states without this restriction require 2.2 years of training. Many of the states that require funeral homes to have embalming rooms also require funeral directors to be embalmers. Standard tests, however, do not reveal a significant multicollinearity problem with the regulatory variables.<sup>6</sup> The author's attempts to combine the regulatory variables into a single index or to group them using factor analysis produced no intelligible results. For these reasons, each regulatory variable enters the regression analysis below as a separate dummy variable (or, in the case of *Training*, the number of years).

The analysis utilizes state-level data from the two most recent years of the U.S. Economic Census: 2002 and 2007.<sup>7</sup> Three data series are of interest: revenues for the death care industry (NAICS code 8122), plus its two constituent components—funeral homes and funeral services (NAICS code 81221), and cemeteries and crematories (NAICS code 81222). Dividing revenues by deaths in each state yields an approximation of consumer costs per death. Examining separate data series for the two sectors helps determine which parts of the industry receive benefits or bear costs as a result of the regulations.

Table 2 compares average receipts per death for the death care industry, funeral homes and services, and cemeteries and crematories in states with and without these regulations. A striking feature of the table is that regardless of the regulation, regulated states virtually always have higher average death care costs than non-regulated states. (Costs are lower in states with a direct disposition license because this is a deregulatory measure that allows cremators to transport bodies without having to be licensed funeral directors.) Costs even tend to climb as more years of training are required. For most regulations, the increase in revenue is much larger for funeral homes and services than for cemeteries and crematories. Indeed, for some regulations, such as *Casket Restriction*, *Embalmer*, *Embalming Room*, and *Crematories Must be in Cemeteries*, the revenue difference for cemeteries and crematories is negligible or even negative.

Figure 1 charts the cost differences for receipts per death in the death care industry. Receipts per death are more than \$2000 lower in states that offer a direct disposition license. The next largest difference is for the cemetery goods restriction; in 2007, average death care costs are \$1782 higher in states that have this restriction. The difference in costs for states requiring the least training (0 years) and the most training (5 years) is even larger—\$3058 in 2007. Based on these figures, several state death care regulations may contribute substantially toward higher costs.

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<sup>6</sup> The highest pairwise correlation coefficient between the regulatory variables is 0.54, between *Embalmer* and *Training*; a popular rule of thumb suggests that multicollinearity may be significant if a correlation coefficient exceeds 0.8 or 0.9 (Farrar and Glauber 1967). The mean variance inflation factor for the regulatory variables is 1.39, and the VIFs for individual regulatory variables are all below 2. There is little agreement on what level counts as high (Belsley et al. 1980, p. 93), but the author has never seen a VIF below 2 identified as “high.” The condition index for the regulatory variables is 8.27. Belsley et al. (1980, p. 153) suggest that a condition number exceeding 15 or 30 could indicate significant multicollinearity.

<sup>7</sup> The regressions do not control for possible endogeneity of funeral regulations. Because this study uses 2 years of state-level data, it is not feasible to control for endogeneity using state-specific fixed effects. Harrington and Krynski (2002) found that restrictive funeral regulation is correlated with lower cremation rates regardless of whether they controlled for endogeneity.

**Table 2** Average death care costs in regulated vs. non-regulated states (\$2007)

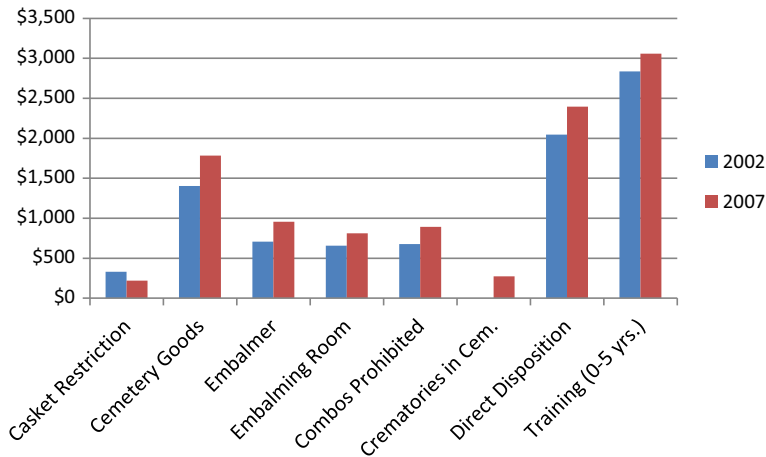
	2007 Death care	2007 Funeral homes and services	2007 Cemeteries and crematories	2002 Death care	2002 Funeral homes and services	2002 Cemeteries and crematories
Casket restriction (5)	\$6220	\$5133	\$1087	\$6664	\$5445	\$1219
Other states	\$5999	\$4828	\$1071	\$6333	\$5226	\$1120
Difference	\$221	\$305	\$16	\$331	\$219	\$99
Cemetery goods restriction (3)	\$7694	\$5848	\$1846	\$7686	\$5942	\$1744
Other states	\$5912	\$4,891	\$1022	\$6283	\$5204	\$1091
Difference	\$1782	\$957	\$824	\$1403	\$738	\$653
Embalmer (29)	\$6411	\$5337	\$1074	\$6672	\$5562	\$1129
Other states	\$5456	\$4386	\$1070	\$5963	\$4833	\$1130
Difference	\$955	\$951	\$4	\$709	\$729	-\$1
Embalming room (*)	\$6254	\$5158	\$1095	\$6559	\$5414	\$1160
Other states	\$5441	\$4423	\$1016	\$5902	\$4847	\$1056
Difference	\$813	\$735	\$79	\$657	\$567	\$104
Mortuary-cemetery combinations prohibited (12)	\$6694	\$5438	\$1256	\$6884	\$5685	\$1246
Other states	\$5803	\$4791	\$1013	\$6206	\$5113	\$1094
Difference	\$891	\$647	\$243	\$678	\$572	\$152

Table 2 continued

	2007 Death care	2007 Funeral homes and services	2007 Crematories and crematories	2002 Death care	2002 Funeral homes and services	2002 Crematories and crematories
Crematories in cemeteries (2)	\$6283	\$5345	\$938	\$6358	\$5839	\$801
Other states	\$6010	\$4932	\$1078	\$6366	\$5223	\$1143
Difference	\$273	\$413	-\$140	-\$8	\$616	-\$342
Direct disposition license (3)	\$3772	\$2884	\$887	\$4440	\$3336	\$1104
Other states	\$6168	\$5084	\$1084	\$6486	\$5367	\$1131
Difference	-\$2396	-\$2200	-\$197	-\$2046	-\$2031	-\$27
Years of training						
0	\$4561	\$3633	\$929	\$5227	\$4512	\$714
1	\$4818	\$4524	\$294	\$5227	\$4905	\$322
2	\$5283	\$4304	\$979	\$5751	\$4635	\$1116
3	\$6356	\$5117	\$1238	\$6635	\$5369	\$1299
4	\$6238	\$5294	\$945	\$6619	\$5588	\$1032
5	\$7619	\$5516	\$2103	\$8063	\$5777	\$2286
Difference 0-5 years	\$3058	\$1883	\$1174	\$2836	\$1265	\$1572

\* 36 states in 2002, 35 in 2007

Note Arkansas and Wyoming are excluded in 2007 because the Economic Census does not report receipts for their death care industry



**Fig. 1** Differences in receipts per death, regulated vs. non-regulated states

## 4 Econometric analysis

Of course, many factors affect death care costs. Even if regulation has an effect, it is just one factor, and so the differences in Table 2 may over- or under-state regulation's effects. The econometric analysis below controls for a variety of regulatory and demographic factors that might explain death care costs.

### 4.1 Econometric approach

A small economics literature on the death care industry has identified numerous factors that affect death care costs, such as population age, mobility of the population, income, education, race, religion, state regulations, and the percentage of deaths that are cremated (Daniel 1989; Fan and Zick 2004; Harrington 2007; Sutter 2007; Chevalier and Scott Morton 2008). The econometric approach taken in most of the literature is to regress death care costs on the cremation percentage, various socioeconomic and religious control variables, and dummy variables indicating the presence of state policies of interest.

A problem with this approach, however, is that the cremation percentage is also significantly affected by many of the same policies and control variables (Harrington 2007; Harrington and Krynski 2002). This correlation may mask the effects of some variables or make some variables appear to have a statistically significant effect even if they do not. For example, in his study of restrictions on casket sales by non-funeral directors, Sutter (2007, pp. 229–230) found that inclusion of the cremation percentage in his regressions often reduced and sometimes reversed the effect of casket sales regulations on death care costs.

To avoid this problem, this study estimates receipts per death as a function of regulatory and demographic factors. To check for possible demand inducement effects, a separate regression estimates the state's cremation percentage as a function of the

same regulatory and demographic variables. A regulation's negative correlation with the cremation percentage may provide some idea of the size of the demand inducement effect. But it will not capture all demand inducement, since demand inducement can also take the form of a more elaborate traditional funeral rather than substitution of a traditional funeral for cremation.

Demographic variables control for factors commonly controlled for in other published studies of cremation or death care costs:

Percent of the population 65 years or older

Real median household income

Real median home price<sup>8</sup>

Percent of the population living in Primary Metropolitan Statistical Areas

Percent of the population with a college degree

Racial variables: percent African-American, Asian, and Hispanic

Percent of the population born in the state<sup>9</sup>

Religious affiliation: the number of people out of 1000 who are members of main-line Protestant, evangelical Protestant, Catholic, or Jewish congregations<sup>10</sup>

Regional fixed effects variables (Northeast, Midwest, and South; the omitted category is West).

Finally, since the regressions pool the 2002 and 2007 data, they include a year 2002 dummy to control for shifts in the cremation percentages or death care costs that occurred between years. The 2002 death care cost figures are converted to 2007 dollars for the regressions.

Descriptive statistics and data sources are listed in the Appendix. Regressions are ordinary least squares with Huber-White robust standard errors.

## 4.2 Regression results

Table 3 shows the principal regression results. Five different dependent variables are used: (1) receipts per death for the death care industry, (2) receipts per death for funeral homes and services, (3) receipts per death for cemeteries and crematories, (4) the percentage of industry revenues received by funeral homes and services, and (5) the percent of deaths cremated.

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<sup>8</sup> This is likely the best variable available on the state level that proxies for variations in the cost of living. The US Bureau of Labor Statistics calculates the Consumer Price Index for selected urban areas and for four regions of the country, but not for states. Neither statistic accurately reflects differences in the cost of living across different states, and BLS explicitly warns that the indices for different metropolitan areas should not be used to compare the cost of living across locations. See [http://www.bls.gov/cpi/cpifaq.htm#Question\\_19](http://www.bls.gov/cpi/cpifaq.htm#Question_19).

<sup>9</sup> Industry sources indicate that population mobility is a major factor affecting the cremation decision (CANA 2012), and the percentage of the population born in the state helps measure mobility.

<sup>10</sup> Published research indicates that religious affiliation has a much more significant effect on the cremation percentage than on funeral expenditures (Harrington 2007, p. 205), although industry sources suggest that religion is a much less important factor than it used to be because most major religions now accept cremation (CANA 2012).

**Table 3** Funeral industry restrictions, funeral costs, and cremation percentage, 2002 and 2007 pooled data

	Dependent variable				
	(1) Receipts/death Death care	(2) Receipts/death Funeral homes/services	(3) Receipts/death Cemeteries/crematories	(4) Funeral home % of revenues	(5) Percent Cremated
Casket restrictions	-232.84 (0.82)	-190.33 (0.81)	-24.72 (0.26)	0.002 (0.19)	1.82 (0.95)
Cemetery goods prohibition	1267.82 (2.19**)	1546.82 (3.01***)	-387.64 (1.17)	0.074 (1.81*)	-23.93 (5.06***)
Embalmer	341.69 (2.11**)	390.36 (2.59**)	-44.72 (0.54)	0.026 (1.89*)	-4.97 (2.68**)
Embalming room	-108.58 (0.50)	-316.04 (1.63)	199.85 (2.20**)	-0.023 (1.77*)	3.06 (1.26)
Mortuary-cemetery combinations prohibited	-458.11 (1.28)	-172.51 (0.59)	-259.56 (2.05**)	0.026 (1.72*)	7.25 (2.29**)
Crematories must be in cemeteries	-1404.77 (4.52***)	-818.79 (2.95***)	-422.64 (1.92*)	0.044 (1.23)	14.07 (4.45***)
Years of training	-82.17 (0.96)	-111.35 (1.44)	31.73 (0.91)	-0.008 (1.36)	1.59 (2.23**)
Direct disposition	-1251.00 (4.81***)	-1044.73 (4.85***)	-200.73 (1.42)	0.002 (0.09)	8.44 (3.12***)
Percent over 65	68.39 (0.94)	-1.82 (0.03)	65.02 (2.28**)	-0.013 (3.04***)	0.48 (0.68)
Real median household income	0.007 (0.23)	-0.01 (0.41)	0.01 (1.51)	<-0.00001 (1.58)	-0.0001 (0.51)
Real median home price	0.002 (0.99)	0.001 (0.92)	0.0004 (0.49)	<-0.00001 (0.90)	-0.00002 (1.68*)
Percent in PMSA	12.24 (1.75*)	2.03 (0.32)	9.87 (3.77***)	-0.002 (5.02***)	-0.02 (0.33)



Table 3 continued

	Dependent variable				
	(1) Receipts/death Death care	(2) Receipts/death Funeral homes/services	(3) Receipts/death Cemeteries/crematories	(4) Funeral home % of revenues	(5) Percent Cremated
Percent College	42.52 (1.79*)	18.24 (0.86)	22.97 (2.45**)	-0.003 (2.18**)	0.35 (1.37)
Percent African-American	-48.27 (3.76***)	-24.88 (2.17**)	-22.83 (4.38***)	0.003 (4.06***)	-0.18 (1.63)
Percent Asian	9.23 (0.37)	-14.81 (0.85)	25.47 (2.52**)	-0.003 (3.37***)	0.52 (3.62***)
Percent Hispanic	5.86 (0.48)	-4.65 (0.43)	11.51 (2.22**)	-0.002 (2.08**)	-0.17 (1.37)
Year 2002	498.83 (2.86***)	339.79 (2.21**)	170.43 (2.73***)	-0.01 (1.65)	-7.45 (4.33***)
Northeast	1144.10 (2.15**)	1206.83 (2.67***)	-9.80 (0.05)	0.06 (2.43**)	-12.94 (2.49**)
Midwest	2050.65 (4.66***)	2016.64 (5.23***)	52.44 (0.30)	0.06(2.60**)	-13.40 (3.22***)
South	3045.31 (6.91***)	2355.64 (5.84***)	680.24 (4.50***)	-0.01 (0.44)	-23.17 (6.27***)
Percent born in state	72.26 (6.01***)	43.01 (4.14***)	29.28 (6.29***)	-0.003 (4.06***)	-0.61 (5.68***)
Mainline protestant	-4.65 (2.32**)	-1.76 (0.95)	-2.80 (3.74***)	0.00002 (1.97)	-0.01 (0.54)
Evangelical	-4.63 (3.24***)	-3.69 (2.60**)	-1.02 (1.60)	0.00002 (0.22)	0.004 (0.20)
Catholic	0.87 (0.61)	0.06 (0.05)	-1.09 (2.07**)	0.0002 (2.12**)	-0.001 (0.04)
Jewish	0.79 (0.07)	-17.09 (1.93*)	17.17 (3.18***)	-0.002 (3.31**)	0.20 (1.92*)
Constant	-1332.07 (0.58)	2303.21 (1.18)	-3454.16 (4.09***)	1.43 (12.33***)	76.42 (3.79***)
N	100	100	100	100	100
R-squared	0.84	0.83	0.85	0.86	0.89

T-statistics based on Huber-White standard errors are in parentheses. Statistical significance: \* 10 %, \*\* 5 %, \*\*\* 1 %

#### 4.2.1 Consumer costs

The econometric results suggest that multiple state regulations affect consumer death care costs, even after controlling for numerous demographic factors and other regulations. The first three equations show that *Cemetery Goods Restriction* and *Embalmer* are associated with higher receipts per death for the death care industry and for funeral homes and services, but not for cemeteries and crematories. Equation 5 implies that some of this cost increase could stem from demand inducement. Both regulations are associated with a significant reduction in the cremation percentage.

Direct disposition licenses and the requirement that crematories must be located in cemeteries are associated with lower receipts per death for the death care industry and funeral homes and services. As Eq. 5 shows, these two policies are associated with significant increases in the cremation percentage.

The increase in cremations associated with direct disposition licenses likely indicates demand inducement in states where direct disposition licenses are not available. Where customers do not have to utilize a funeral director to transport the body, funeral directors have fewer opportunities to talk customers into purchasing more expensive funerals instead of cremations. This can be expected to result in substantially higher cremation percentages, and lower average death care costs, in states with direct disposition licenses. An alternative explanation would be that cremations simply cost less in states with direct disposition licenses because crematories or third parties charge less to transport the body than funeral directors charge. But the regression coefficients in Eqs. 1 and 2 indicate that the cost difference exceeds \$1000, whereas funeral directors charged an average of \$420 to transport a body in 2005 (Harrington 2007, p. 2). The size of the cost difference is too large to be fully accounted for by lower transportation charges in states with direct disposition licenses.

The requirement that crematories must be in cemeteries appears to lower death care costs by encouraging cremation. This is consistent with cremation advocates' belief that locating crematories in cemeteries would make cremation more acceptable to the public (Harrington and Krynski 2002, p. 12). The states requiring crematories to be in cemeteries do not offer direct disposition licenses, so funeral directors still have an opportunity to sell traditional funerals to every customer in those states. This regulation might also lower costs by preventing funeral directors from steering customers to their own, higher-priced crematories.

*Embalming Room* and *Years of Training* do not appear to be correlated with industry receipts per death. This is consistent with Harrington and Krynski's (2002) observation that these regulations are closely related to and often correlated with *Embalmer*. Prohibition of mortuary-cemetery combinations is not correlated with industry receipts per death. Harrington and Treber (2012) present evidence that mortuary-cemetery combinations have lower costs but may also lead customers to purchase more services, so their effect on overall death care costs would be ambiguous. Casket restrictions are not correlated with any of the dependent variables—another result consistent with prior literature (Chevalier and Scott Morton 2008; Sutter 2007).

#### 4.2.2 Intra-industry effects

Three regulations appear to help funeral homes primarily: the cemetery goods restriction, the embalmer requirement, and the absence of direct disposition licenses. These have a statistically significant correlation with receipts per death for funeral homes and services (Eq. 2), but not with receipts per death for cemeteries and crematories (Eq. 3). Perhaps not surprisingly, the first two regulations also increase the share of industry revenues received by funeral homes and services, although the coefficients in Eq. 4 are only marginally significant.

The requirement that crematories must be in cemeteries appears to reduce average receipts for both major segments of the death care industry. This probably occurs because it is associated with an increase in cremations, so funeral directors sell fewer traditional services and cemeteries sell fewer burial plots. Since the cemeteries are selling the cremations, this regulation may increase their profits even if it reduces their revenues from the sale of burial plots.

Two regulations are correlated with receipts only for cemeteries and crematories. *Embalming Room* is positive and significant in Eq. 3, perhaps because embalming services can be (but no not have to be) a complement to burial plots. It may not be correlated with funeral homes' average receipts because *Embalmer* already captures the effect of "ready-to-embalm" regulations.<sup>11</sup> *Embalming Room* is also the most prevalent regulation, present in 36 states. The prohibition of mortuary-cemetery combinations is associated with reduced revenues per death for cemeteries and crematories without affecting revenues for funeral homes and services. Perhaps this is an artifact of the data. If some revenues from mortuaries that are combined with cemeteries in states where these combinations are legal are reported as cemetery revenues, then cemetery revenues would appear to be lower in states where such combinations are not legal. Alternatively, Eq. 5 suggests that prohibitions of mortuary-cemetery combinations encourage cremations, which may lower cemeteries' average revenues per death. The increase in cremations may be an inefficient response to the regulation, if consumers substitute cremation for traditional burials because the regulation creates barriers to entry or increases costs.

Two regulations appear to have little or no correlation with death care costs for any segment of the death care industry. *Casket Restriction* is never statistically significant. *Years of Training* has no significant correlation with any measure of industry revenues and is associated with a very small increase in the cremation percentage.

### 4.3 Quantification of regulatory costs

The coefficients in Table 3 can be used to estimate the potential effects of the regulatory variables on death care costs. There are three different ways of calculating consumer costs from the regression equations. The first, and most direct, is to multiply the

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<sup>11</sup> Adding a variable that indicates whether a state had both of these regulations, following [Harrington and Krynski \(2002\)](#), did not change these results.

coefficients in Eq. 1 by the number of deaths in each state that has each regulation, then sum:

$$\text{Consumer savings}_i = \sum_{j=1}^n (\beta_{1i} * \text{Deaths}_j), \quad (1)$$

where  $i$  indicates the regulation,  $\beta_{1i}$  is the  $i$ th regulation's coefficient in Eq. 1, and  $j$  indicates each state that has the regulation.

The second, a useful cross-check, is to calculate the net effect on average receipts per death using coefficients for the two segments of the industry in Eqs. 2 and 3, multiply this amount by the number of deaths in each state that has the regulation, then sum:

$$\text{Consumer savings}_i = \sum_{j=1}^n ((\beta_{2i} + \beta_{3i}) * \text{Deaths}_j), \quad (2)$$

where  $i$  indicates the regulation,  $\beta_{2i}$  is the  $i$ th regulation's coefficient in Eq. 2,  $\beta_{3i}$  is the  $i$ th's regulation's coefficient in Eq. 3, and  $j$  indicates each state that has the regulation.

The third is to estimate the change in consumer costs implied by the change in the cremation rate indicated by the coefficients in Eq. 5. A cremation normally allows the consumer to avoid the costs of a casket, burial vault, embalming, and grooming the body, which totaled \$3771 in 2005 (Harrington 2007, p. 202). To estimate the cost savings in this way, multiply the change in cremation percentage from the coefficients in Eq. 5 by the number of deaths in each state with the regulation, multiply this figure by \$3771, then sum:

$$\text{Consumer savings}_i = \sum_{j=1}^n (\beta_{5i} * \text{Deaths}_j) * 3771, \quad (3)$$

where  $i$  indicates the regulation,  $\beta_{5i}$  is the  $i$ th regulation's coefficient in Eq. 5, and  $j$  indicates each state that has the regulation.

This third method yields some insight into the potential size of demand inducement effects. If a regulation is negatively correlated with the cremation percentage, then that may signify that the regulation encourages funeral directors from to induce demand for traditional funerals, and *vice versa*.

Table 4 shows these calculations for the four regulations that are correlated with receipts per death for the death care industry. The most expensive regulation is the requirement that funeral directors must be embalmers. This regulation is associated with a \$342–390 increase in receipts per death for the death care industry. Because the regulation is so prevalent, its total cost is large: approximately \$400–404 million per year. Given the significant cost of this regulation, it's not surprising that it has attracted a great deal of attention from prior researchers (Harrington 2007; Harrington and Krynski 2002). Based on its correlation with cremation rates in equation 5, at least half of the cost of this regulation (\$216 million) appears to be attributable to demand inducement.

**Table 4** Estimated effects of funeral regulations, 2007

	Cemetery goods prohibition	Embalmer	Crematories must be in cemeteries	Direct disposition license
<i>Method 1</i>				
Coefficient from Eq. 1	\$1268	\$342	−\$1405	−\$1251
* Deaths in affected states	220,360	1,170,585	65,410	214,980
= Total cost	\$279,416,480	\$400,340,070	−\$91,901,050	−\$268,939,980
<i>Method 2</i>				
Coefficient from Eq. 2	\$1547	\$390	−\$819	−\$1045
+ Coefficient from Eq. 3	−\$388	−\$45	−\$423	−\$201
= Sum of coefficients	\$1159	\$345	−\$1242	−\$1246
* Deaths in affected states	220,360	1,170,585	65,410	214,980
= Total cost	\$255,397,240	\$403,851,825	−\$81,239,220	−\$267,865,080
<i>Method 3</i>				
Coefficient from Eq. 5 (%)	−24.1	−4.9	14.1	8.5
* Deaths in affected states	220,360	1,170,585	65,410	214,980
= Change in cremations	(53,107)	(57,359)	9223	18,273
* Costs avoided due to cremation	\$3771	\$3771	\$3771	\$3771
= Total cost	\$200,265,592	\$216,299,526	−\$34,779,217	−\$68,908,614

The direct disposition license is associated with an approximate \$1250 reduction in average receipts per death in the three states that offer this license. Based on these figures, direct disposition licenses save consumers about \$268 million annually. At least \$69 million appears to stem from demand inducement. Alternatively, the coefficient implies that adoption of direct disposition licenses in the 48 jurisdictions that do not have them could save consumers approximately \$2.8 billion annually.<sup>12</sup> Thus, one might view the *absence* of direct disposition licenses as the most expensive funeral regulation.

The ban on cemetery sales of funeral merchandise is associated with a \$1159–1268 increase in average receipts per death in the three states that have this regulation.

<sup>12</sup> \$1250 × 4 2,208,732 deaths in 2007 (in the District of Columbia and 47 states that do not offer direct disposition licenses) = \$2,760,915,000.

The cost totaled \$255–279 million in 2007. A noticeable portion of this cost—\$201 million—appears to stem from demand inducement.

The requirement that cemeteries must be in crematories is associated with an \$81–91 million reduction in consumer costs. As with the other regulations, a substantial percentage of the savings is attributable to the associated increase in cremations. However, this cremation effect accounts for less than half of the cost difference.

There is likely more uncertainty surrounding these figures than the precise calculations in Table 4 indicate. For some closely-related regulations, it is still possible that a single variable might capture most of the effect in the regression equations, thus leading some regulations to appear insignificant even if they contribute to higher costs. Coefficients for some regulations might also be biased upward if these regulations are correlated with other unobserved anti-competitive regulations not included in the study. This study includes all major funeral industry regulations that have been included in prior published empirical studies, but it does not include some less-studied regulations such as requirements that only funeral directors can own funeral homes or that each funeral home must be supervised by a licensed funeral director. Thus, the estimated coefficients could include the effects of these unobserved regulations. Nevertheless, the basic result is clear: many funeral regulations have substantial costs.

#### 4.4 Interstate effects

Prior published research considers only the effects of state funeral restrictions on the families of in-state decedents. A state's ban might affect cremation percentages or funeral costs in neighboring states because metropolitan areas, and hence local funeral markets, can span state lines. Table 5 shows regression results when dummy variables are included to account for potential interstate effects of the regulatory variables.

For each regulatory variable, a state is coded as a neighbor state if it borders a state that has the regulation but does not itself have the regulation. This approach ensures that effects of a state's own regulations are not erroneously attributed to a neighbor state's regulations. There is no neighbor coefficient for *Embalming Room* because this regulation is so prevalent that every state either has this regulation or borders a state with this regulation.

Intrastate results for the regulatory variables in Table 5 are very consistent with those in Table 3. No coefficient on a regulatory variable changes signs (except for *Casket Restriction*, which is never statistically significant). Regulatory variables that are statistically significant in Table 3 usually become even more significant in Table 5. Coefficients are generally the same order of magnitude, except that the coefficients on *Embalmer* are about twice as large in Table 5, and the coefficients on *Crematories Must be in Cemeteries* are larger by several hundred dollars in Eqs. (1–3) in Table 5.

The *Neighbor States* dummy variables suggest that several regulations may have interstate spillover effects. These include *Cemetery Goods Prohibition*, *Embalmer*, *Cemeteries Must be in Crematories*, and *Direct Disposition*. For two regulations, *Cemetery Goods Prohibition* and *Direct Disposition*, the coefficient for the interstate variable is noticeably lower than the coefficient for the intrastate variable—an intuitively sensible result. For *Embalmer*, however, the intrastate and interstate coefficients on receipts

**Table 5** Coefficients on regulatory variables when interstate effects are included

	Dependent variable				
	(1) Receipts/death Death care	(2) Receipts/death Funeral homes/services	(3) Receipts/death Cemeteries/crematories	(4) Funeral home % of revenues	(5) Percent Cremated
Casket restrictions	283.10 (0.76)	224.90 (0.67)	43.57 (0.23)	0.01 (0.25)	-5.71 (1.56)
Neighbor states	581.59 (0.47)	48.42 (0.16)	71.90 (0.44)	-0.01 (0.38)	-4.79 (1.45)
Cemetery goods prohibition	1593.00 (3.31***)	1907.61 (3.98****)	-457.71 (1.89**)	0.086 (2.14**)	-25.86 (5.45****)
Neighbor states	581.59 (1.61)	900.72 (2.36**)	-403.72 (2.32**)	0.064 (2.15**)	-9.96 (2.63**)
Embalmer	807.37 (3.01***)	866.73 (3.37***)	-63.50 (0.53)	0.054 (2.75***)	-10.62 (3.34****)
Neighbor states	806.42 (2.98***)	730.50 (2.91***)	73.62 (0.71)	0.029 (1.75*)	-5.53 (1.85*)
Embalming room	-249.41 (1.21)	-394.60 (1.98*)	135.44 (1.58)	-0.019 (1.45)	2.84 (1.27)
Mortuary-cemetery combinations prohibited	-321.97 (0.86)	-278.12 (0.86)	-17.49 (0.10)	-0.001 (0.04)	11.58 (2.82****)
Neighbor states	152.60 (0.63)	-50.78 (0.21)	201.44 (1.90*)	-0.019 (1.15)	5.25 (1.88*)
Crematories must be in cemeteries	-2157.58 (6.17***)	-1164.26 (3.11****)	-609.95 (3.97****)	0.086 (2.57****)	11.48 (2.87****)
Neighbor states	-3297.42 (8.41****)	-2747.19 (6.80****)	-609.95 (3.28****)	-0.016 (0.65)	13.35 (2.99****)
Years of training	-65.20 (1.05)	-89.50 (1.63)	23.68 (0.64)	-0.006 (1.08)	1.28 (1.58)
Direct disposition	-1565.01 (5.16****)	-1371.36 (5.56****)	-198.59 (1.31)	0.016 (0.65)	11.58 (3.45****)
Neighbor states	-388.49 (1.91*)	-439.40 (2.14**)	52.10 (0.50)	-0.03 (1.48)	5.43 (1.87*)
N	100	100	100	100	100
R-squared	0.92	0.92	0.88	0.88	0.89

Control variables are the same as in Table 3 but omitted to conserve space  
 T-statistics based on Huber-White standard errors are in parentheses. Statistical significance: \* 10 %, \*\* 5 %, \*\*\* 1 %

per death in Eq. (1) are virtually the same. The results for *Crematories Must be in Cemeteries* are even more unusual; the coefficients suggest an interstate effect that is larger than the intrastate effect.

The presence of these odd results suggests that Table 5 should be interpreted with caution. The regressions have 31 explanatory variables and only 100 observations, so these results are at best suggestive of interstate effects. A larger data set is likely required to produce more definitive findings.

## 5 Conclusion

This study accounts for multiple major categories of regulations and demand inducement as well as direct price effects. Consistent with prior literature, this analysis finds that regulations pertaining to embalming are often associated with higher death care costs and lower cremation percentages, requiring crematories to be in cemeteries has a positive correlation with the cremation percentage, and state restrictions on casket sales are not correlated with death care costs.

However, this study also presents new results. It suggests that two regulatory reforms—granting direct disposition licenses and allowing cemeteries to sell funeral merchandise—could each reduce death care costs by about \$1200. Direct disposition licenses are associated with a \$268 million annual reduction in death care costs in the three states that offer them. Adoption of direct disposition licenses in the 48 jurisdictions that do not offer them could save consumers almost \$2.8 billion. The ban on cemetery merchandise sales is associated with a \$255–279 million annual increase in death care costs. Thus, the total cost of state death care regulations may be much higher than previously thought.

The main beneficiary of funeral regulations is the funeral homes and services segment of the industry. For the two regulations associated with higher death care costs—*Embalmer* and *Cemetery Goods Restriction*—the coefficients on receipts per death for funeral homes and services are much larger and more significant than the coefficients for cemeteries and crematories. These two regulations also are associated with a higher share of industry revenues going to funeral homes and services. Direct disposition licenses likewise have a much larger negative correlation with funeral homes' revenues than with cemeteries' and crematories' revenues. Finally, the sole regulation associated with lower death care costs—the requirement that crematories must be in cemeteries—has a much larger negative correlation with revenues for funeral homes than cemeteries and crematories. Given these realities, it is no surprise that the funeral homes vigorously defend most restrictive funeral industry regulations (see, e.g., [Harrington and Treber 2012](#), p. 47).

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## Appendix: Descriptive statistics and data sources

### Descriptive statistics

N = 100

Variable	Mean	Std. Dev.	Min	Max
<i>Receipts per death (\$2007)</i>				
Real receipts per death, death care	\$6197	\$1460	\$2884	\$8461
Real receipts per death, fun homes/svcs.	\$5101	\$1263	\$2335	\$7390
Real receipts per death, cem./crem.	\$1101	\$608	\$101	\$2928
Cremation percent	32.81	16.63	4.44	66.72
<i>Regulatory variables</i>				
Casket restriction	0.100	0.302	0	1
Cemetery goods restriction	0.060	0.239	0	1
Embalmer	0.580	0.496	0	1
Embalming room required	0.710	0.456	0	1
Mortuary-cemetery combinations prohibited	0.240	0.429	0	1
Crematories must be in cemeteries	0.040	0.197	0	1
Years of training	3.000	1.231	0	6
Direct disposition license	0.060	0.239	0	1
<i>Demographic variables</i>				
Percent over 65	12.63	1.79	5.7	17.6
Real median household income	\$49,706	\$7,428	\$33,831	\$67,576
Real median home price	\$173,963	\$91,293	\$78,357	\$555,400
Percent in PMSA 2000	69.02	20.54	27.7	100
Percent college	26.86	5.30	15.9	47.5
Percent African-American	11.10	11.65	0.3	60
Percent Asian	3.37	6.47	0.5	50
Percent Hispanic	8.79	9.52	0.7	44.4
Year 2002	0.51	0.50	0	1
Northeast	0.18	0.39	0	1
Midwest	0.24	0.43	0	1
South	0.33	0.47	0	1
Percent born in state	58.68	12.99	21.3	79.5
Religion (adherents per 1000, year 2000)				
Mainline protestant	111	68	14	346
Evangelical protestant	142	111	16	431
Catholic	200	123	32	517
Jewish	14	17	0	87

## Data sources

Revenues for the Death Care industry and its two major components (Funeral Homes and Services, Cemeteries and Crematories), Economic Census 2002 and 2007: Downloaded using American Factfinder interface at [www.census.gov](http://www.census.gov).

Deaths: Centers for Disease Control and Prevention, “Deaths: Final Data for 2007,” *National Vital Statistics Reports* 58:19 (May 20, 2010), p. 101; “Deaths: Final Data for 2002,” *National Vital Statistics Reports* 53:5 (Oct. 12, 20004), p. 89.

Cremation Percentage: “CANA Cremation Statistics,” *The Director* (Nov. 2009), pp. 51–54.

Casket Restrictions Enforced: Daniel Sutter, “Casket Sales Restrictions and the Funeral Market,” *Journal of Law, Economics, & Policy* 3:2 (Spring 2007), 219–240.

Cemetery Goods Prohibition, Embalmer, Embalming Room, Mortuary-Cemetery Combo Prohibited, Crematories Must be in Cemeteries, Years of Training, Direct Disposition License: Furnished by Blank Rome LLP. A researcher looked up each state’s funeral industry laws and regulatory code, then coded each state accordingly.

Years of Training includes formal education and apprenticeships. Where an apprenticeship was required, but the law was not clear whether it could be done simultaneously with schooling, it was assumed the apprenticeship could be served during schooling if that reconciled with the training years on the 1995 table in Harrington and Krynski (2002, pp. 204–05) and there had been no change in the requirements since 1995. Where mortuary schooling was required, but the number of credits were not specified, nor was an associate or bachelor degree required, it was assumed 1 year of schooling was required if that reconciled with the 1995 table in Harrington and Krynski (2002, 2004–2005) and there had been no change in the requirements since 1995.

Median Household Income:

<http://www.census.gov/hhes/www/income/data/historical/household/h08.html>.

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