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When to Care

The Economic Rationale of Slavery Health Care Provision

Prior to the Civil War, many hospitals in the southern United States treated both free and slave patients. In this article we develop a model for the selective medical treatment of slaves. We argue that the pecuniary benefits of hospital care increased with the price of the slave if healthy. Using a rich sample of admission records from New Orleans Touro Hospital, we find a positive correlation between the predicted price of the slave and the probability of hospital admission. We test the robustness of the model by controlling for the length of residence in the city, ownership by traders and doctors, and the type of illness.

In the antebellum South, slave owners' livelihoods depended on the health of their slaves. When slaves became ill, production fell, and profits suffered. But the need to provide health care came with costs—often expensive hospital stays or physician visits. In instances where the benefits of curing slaves outweighed the treatment costs, owners took broad measures to ensure care.

The health care of slaves was among the most important aspects of plantation management. Some owners of large plantations erected hospitals for the care of their slaves. Plantation manuals recommended that hospitals be well ventilated, clean, and located near the "big house," allowing owners to maintain close observation over sick slaves. On a day-to-day basis, owners' wives or female slaves were usually responsible for patient care. When owners were absent, they left explicit instructions with overseers regarding the treatment of sick slaves. In cases of life-threatening illness, owners often called physicians to the plantations or sent slaves to hospitals in nearby cities

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(Jordan 1950: 85; Postell 1951: 129; Fogel and Engerman 1974: 119; Kiple and King 1981: 163–65).¹

Accepted contemporary treatments included bloodletting, blistering, and prescribed medicines that induced vomiting, diarrhea, or even fatality (Duby 1959: 55; Fett 2002: 119; Washington 2006: 52–54). While modern medicine suggests that many of these treatments hindered recovery, most owners believed in the curative powers of contemporary medicine. Yet a compassionate desire to treat and cure the sick fails to explain owners' decisions to provide slaves with health care. Sick slaves represented reduced production and forgone profits. Owners sought medical treatment to return slaves to health and, more explicitly, to work. This economic decision made health care an investment and ensured that slaves received treatment based on their productive value.

Owners withheld medical care from some less productive slaves. Martha Griffith Browne, a former slave, recalled her owner's disdain for providing care to his elderly slave. The owner stated, "I ain't gwine fur to spend money on that old nigger, unless you cure her, and make her able to work and pay fur the money that's bin laid out fur her. . . . If she be gwine to die, why [not] let her do it in the cheapest way[?]" (Washington 2006: 46). Trader John White did not bother to treat the sick children of his slave, Harriet. One child died, and the remaining children were quickly sold off. Harriet, herself a more valuable slave, was treated when White thought she had a reasonable chance of survival. When her condition did not improve, White stopped providing treatment and ordered Harriet brandy for comfort. She died three days later (Johnson 1999: 120). Slaves like Harriet, with higher market values, received more intensive medical treatments. In 1835 Alfred Eggleston sent his slave, George, to eye specialist John Peter Mettauer. Eggleston writes: "You will please take the case in hand. He is a very valuable slave and I feel great solicitude about him." Four years later, as a contrast, James Neal sent "old Bob to come and see if you can do him any good[. If] you can without too much expense you will please afford him relief if you can" (Fett 2002: 28).

In this article we use hospital admission records to analyze the pecuniary

antebellum health care system. Katherine O. Bankole's (1998, 2001) research highlights various trends in the Touro data and provides contextual examples of the enslaved female experience in antebellum hospitals. She, however, does not attempt to address the economic rationale of the slave owners who sent slaves to Touro.

A Model of Hospital Care

From the owner's viewpoint, caring for a slave could make good economic sense. A healthier slave was more productive and could earn more money for his or her owner. And because the slave's future earnings were capitalized in his or her current market value, providing hospital care might also increase the owner's wealth.

When deciding on the appropriate level of care, an owner weighed the expected costs and benefits of improving the slave's health.⁴ We contend that the pecuniary benefits of hospital care increased with the market value of the slave, V . Consider, for example, a slave facing a life-threatening illness. If it is left untreated, the expected price of the slave (with characteristics i) equals the product of the probability of survival, π , and the price of a healthy slave, V_i^h :⁵

$$E(V_i | A = 0) = \pi V_i^h \quad (1)$$

If markets were efficient, then expectations regarding the slave's health were reflected in the price of the slave. Compared to the prices of healthy slaves, a sick slave sold at a discount.⁶ From the owner's perspective, admitting the slave to a hospital increased the probability of survival and the expected price of the slave:

$$E(V_i | A = 1) = \pi' V_i^h, \quad (2)$$

where $E(V_i | A = 1)$ is the expected price of the slave conditional on hospital admission, and π' , the probability of survival, is greater than π . The marginal benefit of hospital care equals the difference in the expected prices:

$$MB_i = E(V_i | A = 1) - E(V_i | A = 0) = (\pi' - \pi)V_i^h \quad (3)$$

Because hospital admission increases the probability of survival (by assumption), the marginal benefit of hospital care is positive and an increasing function of the price of the healthy slave.⁷

The owner sought hospital care for his or her slave if the marginal benefit exceeded the price of hospital care.⁸ Because the marginal benefit increased with the price of the healthy slave, the probability of hospital admission would also increase with the slave's price. Consequently, we expect that, other things equal, owners hospitalized more higher-valued slaves than other slaves.⁹

An alternative model might suggest that all slaves, not just those with higher market values, had equal access to hospital care. Under a doctrine of paternalism, slaves were members of the owner's extended family, and the owner took care of them. Viewed differently, paternalism was an implicit, long-term contract between the owner and the slave. In exchange for his or her labor, the owner promised to provide the slave with a lifetime of food, shelter, clothing, and health care (Stampp 1956: 322–30; Genovese 1976: 3–7). According to Robert W. Fogel and Stanley L. Engerman (1974: 73):

Patriarchal commitments may actually raise profits by inducing labor to be more efficient than it would have been under a less benevolent management. There is no reason to rule out the possibility that paternalism operated in this way for slaveowners. No one has shown that masters who practiced paternalism had lower rates of return on the average than those who were unconcerned or heartless with respect to the welfare of their bondsmen.

A paternalistic owner sought hospital care for his or her ill or injured slave, regardless of the slave's current market price.¹⁰

Data Description

Touro was established in 1852 "as a charitable Institution for the relief of the Indigent sick" (Burnett 1979: xiii). Located in the New Orleans shipping district, the hospital advertised itself as "one of the best ventilated and arranged Institutions in the Southern Country" (Cohen's New Orleans Directory 1855: 229).¹¹ Most Touro patients were not indigent, nor were they offered free medical care. An expectation of payment for hospital care was especially true for the enslaved patients. With few exceptions, the hospital charged owners a uniform rate of one dollar per day for their slaves in addition to charges for any surgeries or medical procedures.¹² As suggested in the earlier model, this rate may have dissuaded some owners from seeking hospital care for their slaves.

Table 1 Touro Hospital admissions, 1855–60

Year	Number of patients	Patient's occupation recorded as "slave"	Patients recorded without surname
1855	250	71	72
1856	253	160	146
1857	301	226	218
1858	495	181	185
1859	203	41	117
1860	78	0	51
Total	1,580	679	789

Source: Touro Hospital Admission Book 1855–60.

Touro Hospital admitted 1,580 patients between 1855 and 1860 (the hospital closed during the Civil War because its only doctor joined the army).¹³ Under a column titled “Occupation” in the admission book, 679 of these patients (43 percent of the total) were explicitly recorded as slaves. Some slaves, however, may have had their skills recorded rather than their enslaved status. Inconsistent bookkeeping is especially problematic for the records of patients admitted after April 15, 1859, because those records indicate an increased number of patients with occupations typically associated with slavery, such as plantation hand or servant. In addition, patients recorded as slaves made up 49 percent of the total prior to April 15, 1859, whereas after this date, enslaved patients represented only 7 percent of the total. We believe that the decreased number of patients recorded as slaves is evidence of a change in bookkeeping practices (table 1).

Hospital bookkeepers did not record surnames for most enslaved patients. Of those patients explicitly identified as slaves prior to April 15, 1859, 93 percent were recorded without a surname. In contrast, of those patients recorded with an occupation (other than slave), 96 percent were recorded with a surname. Using this proxy to identify slaves increases their number to 789 (50 percent of the total number of patients) primarily because of the reclassification of patients admitted after the date of the suspected change in bookkeeping practices. Henceforth we use the absence of a recorded surname as a proxy of a patient’s enslaved status rather than the listed occupation.¹⁴

Touro was an urban hospital, and most of its enslaved patients were

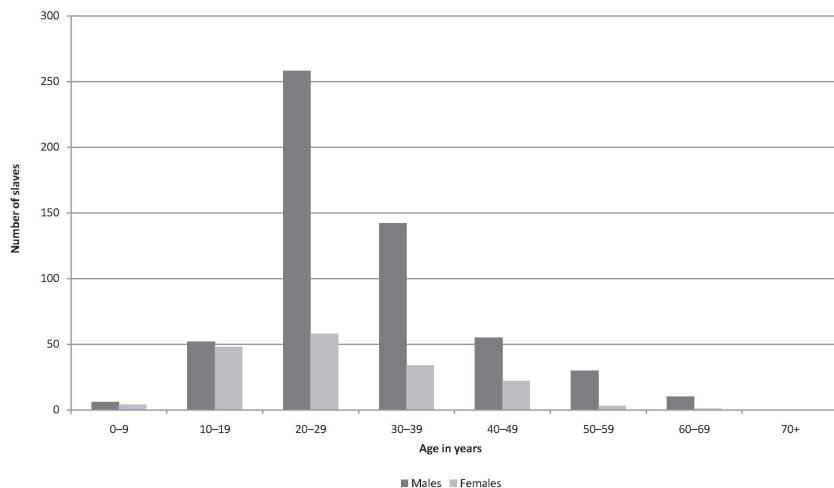


Figure 1 Age distribution of enslaved patients, Touro Hospital, 1855–60
Source: Touro Hospital Admissions Records 1855–60.

long-term residents of the city. For the enslaved patients, the recorded length of residence in the city ranged from 1 hour to 50 years, with an average length of 7.9 years and a median of 4.0 years.¹⁵ In comparison, the average length of residence for free patients was 2.5 years, and the median length was only 2 months. Married patients were older on average than single patients. Among slaves aged 15 years or more, the average age of a married patient was 35 years, whereas the comparable figure for a single patient was 27 years. Although slave marriages were not recognized by law, 32 percent of the enslaved patients aged 15 years or more were married; the comparable figure for the free patients was 25 percent. Even after controlling for variation in age and gender, relatively more of the enslaved patients were married. The large proportion of married, long-term residents of the city suggests that the slaves admitted to Touro were a relatively stable group of patients.

Most of Touro's enslaved patients were prime-aged males. Because gender was not recorded at the time of admission, we infer it from the patient's first name. Among the 789 patients recorded without a last name, we identify 580 (73 percent) as male. The relatively large number of male patients is especially striking when one considers that 59 percent of New Orleans slaves were female.¹⁶ In addition, children and older adults were notably absent

among those admitted to the hospital (figure 1). Children aged less than 10 years made up more than 17 percent of New Orleans's enslaved population in 1860, yet they accounted for fewer than 2 percent of the slaves admitted to the hospital. Relatively few patients were older adults; fewer than 2 percent of the enslaved patients were aged 60 years or more. Slaves aged 20 to 39 years made up 68 percent of the slaves admitted to the hospital. As we argue in the following section, these prime-aged slaves also had the highest market prices.

Predicted Slave Prices

Slave prices are not included in the admission records. Our model predicts that the probability of admission was an increasing function of the healthy slave's price. Consequently, we use the observed characteristics of the slave (in particular age and gender) to predict his or her price if healthy. We then estimate the correlation between the predicted price and the probability of hospital admission.

Fogel and Engerman (1974) used the assessed value of slaves listed in Louisiana probate inventories to estimate the pattern of prices by age and gender circa 1850. In addition, Laurence J. Kotlikoff (1992) used sales records to estimate the structure of slave prices in New Orleans. For our empirical tests, we use Fogel and Engerman's estimates of slave prices. As a check on our work, we also use Kotlikoff's estimates.¹⁷

In general, young adult males commanded higher prices than females, children, or older adults (figure 2). Children aged less than 10 years had an average (unweighted) assessed value of \$307, whereas males aged 20 to 39 years had an average assessed value of \$1,074 and females aged 20 to 39 years had an average assessed value of \$823. For males aged 60 to 69 years, the average assessed value was \$284. Consequently, a healthy young adult male was worth on average more than three times as much as a healthy child or a healthy older adult.

Empirical Results

The probability of hospital admission equals the product of the probability of admission, conditional on becoming sick, and the probability of becoming sick:¹⁸

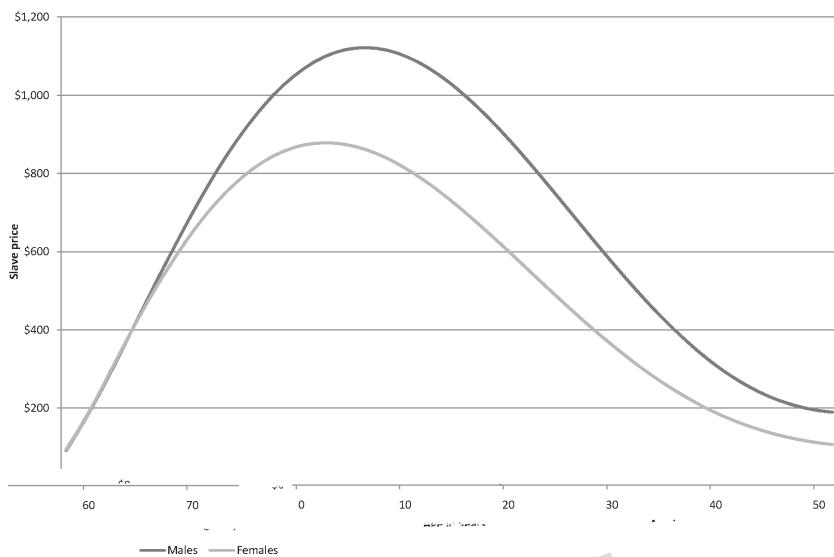


Figure 2 Age-price profile of Louisiana slaves, c. 1850
Source: Fogel and Engerman 1974: 76.

$$P(A = 1) = P(A = 1 \mid S = 1) \cdot P(S = 1) \quad (4)$$

Rearranging terms, the conditional probability of hospital admission equals the quotient of the probability of admission and the probability of becoming sick:

$$P(A = 1 \mid S = 1) = P(A = 1)/P(S = 1) \quad (5)$$

Although the probability of hospital admission, $P(A = 1)$, can be estimated from existing records, morbidity estimates for the enslaved population, $P(S = 1)$, are not available.¹⁹ In the following, we assume that morbidity rates did not vary by gender or age, which implies that the conditional probability, $P(A = 1 \mid S = 1)$, was proportional to the per capita admission rate. This assumption biases the empirical results against the predictions of our model. Children and elderly slaves faced higher morbidity rates than young adults, and among young adults, females faced higher risks than males because of pregnancy complications. Consequently, the per capita admission rate overestimates the conditional probability of hospital admission for children, young females, and the elderly relative to the conditional probability for

Table 2 Touro Hospital admissions, 1855–60 (OLS regression results)

Sample	Intercept	Relative slave price regression coefficient	R ²	Mean of dependent variable
All slaves (n = 751)	-0.027	0.149* (0.021)	0.261	0.0542 (0.0789)
Slaves diagnosed with diarrhea or dysentery (n = 130)	-0.008	0.033* (0.007)	0.141	0.0096 (0.0236)
Residents (1 year or more) (n = 438)	-0.014	0.089* (0.016)	0.182	0.0346 (0.0563)
Residents, no slaves owned by traders or doctors (n = 427)	-0.013	0.086* (0.016)	0.174	0.0341 (0.0563)
Relative slave price				0.5480 (0.2710)

Sources: Touro Hospital Admission Book 1855–60; U.S. Bureau of the Census 1864; Fogel and Engerman 1974.

Notes: The number of observations equals 140, corresponding to the product of 2 genders and 70 ages. For each age and gender, the dependent variable equals the quotient of the number of admits and the 1860 New Orleans slave population. Relative slave price equals the quotient of the predicted slave price for each age and gender and the predicted price of a prime-aged male. Standard errors are listed in parentheses.

*p < .05.

young adult males. By overestimating the conditional probability of hospital admission for these lower-priced slaves, we create a bias against the predictions of our model.

For slaves of each gender and aged less than 70 years, we calculate per capita admissions as the quotient of the number of enslaved admits between 1855 and 1860 and the corresponding number of New Orleans slaves enumerated in the 1860 decennial census. Per capita admission rates are regressed on predicted prices of healthy slaves to estimate the statistical significance of this relationship (table 2).²⁰ Because the predicted prices are measured with error, the regression coefficients are attenuated toward 0, again creating a bias against our model. As predicted by the model, the estimated coefficient for the predicted price is positive and statistically significant at the 5 percent level. These results suggest that slave owners viewed health care as an investment decision and took better care of the more valuable slaves.

Table 3 Occupations of patients without recorded surnames, Touro Hospital admissions, April 15, 1859–March 29, 1860

Occupation	Number of patients employed
Artisans	
Blacksmith	7
Bricklayer	2
Carpenter	3
Tobacco cooper	1
Subtotal	13 (9%)
Domestics	
Cook	2
Housekeeper	1
Nurse	1
Servant	24
Subtotal	28 (19%)
Transport workers	
Drayman	16
Driver	1
Hostler	1
Teamster	1
Subtotal	19 (13%)
Unskilled laborers	
Laborer	3
Plantation hand	15
Subtotal	18 (12%)
Industrial workers	
Boilermaker	1
Cotton roller	2
Cotton press hand	21
Drencher (?)	1
Fireman	7
Subtotal	32 (21%)
Maritime workers	
Levee hand	1
Longshoreman	4
Steamboat hand	3
Stevedore	3
Warehouseman	2
Subtotal	13 (9%)

Table 3 (continued)

Occupation	Number of patients employed
Other	
Barkeep	1
Canal hand	7
Farmer	1
Railroad worker	1
Subtotal	10 (7%)
Slave	16 (11%)
Total	149 (100%)

Source: Touro Hospital Admission Book 1855–60.

Occupational Injuries

If owners employed slaves in hazardous occupations, then the prevalence of prime-aged admits may reflect an increased incidence of occupational injuries rather than the selective provision of health care. With the exception of those patients admitted after April 15, 1859, hospital bookkeepers did not record the occupations of slaves. Of the slaves admitted after this date, many were skilled, and some worked in dangerous jobs (table 3). Slaves with risky trades included, for example, industrial or maritime workers.²¹ Yet injuries resulting in long-term disability or death to the slaves reduced the owners' capital. According to Ulrich B. Phillips (1918: 302–3), owners were risk averse with respect to valuable slaves and preferred to hire free labor for dangerous jobs. Higher wages were offered to the free workers who took these jobs. Phillips (*ibid.*) explains: "The pay attracted those whose labor was their life; the risk repelled those whose labor was their capital. There can be no doubt that the planters cherished the lives of their slaves."

The maladies affecting patients suggest that most owners did not employ their slaves in hazardous occupations. As seen in the second row of table 4, fewer than 10 percent of all enslaved patients suffered from physical injuries associated with hazardous work. Ailments of this nature include broken bones, lacerations, and herniated disks. Maladies such as diarrhea and dysentery, which are not occupational injuries, account for the largest number of slave admissions.²²

Table 4 Patient maladies at Touro Hospital, 1855–60

Malady	Slave population		Free population		
	Frequency	%	Frequency	%	% without yellow fever
Diarrhea and dysentery	133	16.9	49	6.2	10.8
Physical injury	78	9.9	53	6.7	11.6
Malaria	39	4.9	49	6.2	10.8
Pulmonary illness	37	4.7	29	3.7	6.4
Pneumonia	37	4.7	11	1.4	2.4
Sexually transmitted disease	32	4.1	24	3.0	5.3
Pregnancy or related illness	22	2.8	4	0.5	0.9
Yellow fever	22	2.8	335	42.4	na
Rheumatism	21	2.7	11	1.4	2.4
Psychological disorder	11	1.4	2	0.3	0.4
Typhoid fever	10	1.3	7	0.9	1.5
Cholera	7	0.9	10	1.3	2.2
Cancer	5	0.6	9	1.1	2.0
Apoplexy (stroke) ^a	1	0.1	1	0.1	0.2
Infection	34	4.3	15	1.9	3.3
Temporary/treatable illness ^b	111	14.1	66	8.3	14.5
Serious/long-term illness ^c	92	11.7	45	5.7	9.9
None given	97	12.3	71	9.0	15.6
Total	789	100.0	791	100.0	100.0

Source: Touro Hospital Admission Book 1855–60.

^aThe small incidence of cancer and stroke, two major causes of hospitalization today, may be explained in a few ways. Given physicians' rudimentary ability to diagnose various diseases, it is possible that these particular illnesses were recorded as different maladies. An alternate explanation relates to the health care provision to the aged. As owners placed more prime-aged slaves in the hospital, there were fewer diagnoses of diseases that tend to affect the elderly, such as cancer and stroke.

^bThis category includes such maladies as indisposition, amenorrhea, catarrah, ephemeral fever, menorrhagia, delirium tremens/mania potu, constipation, phymosis, tonsilitis, plethora, vertigo, eczema, bedsores, psoriasis, ground itch, gastralgia, anasarca, and stricture of the urethra.

^cThis category includes such maladies as dropsy, anasarca/ascites, rubeola, caries, debility, bubo, chorea, paroxysm, anemia, stula, epilepsy, variola, colic/cholic, prostate affection, necrosis, jaundice, d. fever, scurvy, indurated testicle, ramollissement, hemiplegia, eruptive disease, physinosis, varicose veins/vericosella, tetanus, gout/arthritis, hypercarditis, and archyloblepharon.

Like other private hospitals in the city, Touro refused to admit patients with contagious diseases; these cases were referred to Charity Hospital or the Marine Hospital in New Orleans (Cohen's New Orleans Directory 1855: 229; Matas 1962: 209, 214). Administrators may have imposed this ban to protect the hospital staff or to allay the fears of patients (or their owners). Yel-

low fever, the scourge of New Orleans, was spread by mosquitoes rather than by direct contact with infected patients. Contemporary physicians, unaware of yellow fever's vector, debated among themselves whether the disease was contagious. Among free patients, yellow fever was the leading cause of hospital admission and the leading cause of in-hospital death. The lack of slaves admitted with yellow fever suggests that blacks were less susceptible to the disease than whites. Kenneth F. Kiple and Virginia H. King (1981: 44) argue that blacks and whites were equally likely to contract the disease but that black victims suffered milder symptoms. Selective treatment of slaves might account for the lack of enslaved patients admitted for yellow fever—slaves with milder symptoms might have been treated at home. The slaves' lower in-hospital mortality rates are consistent with Kiple and King's argument. Of those patients admitted with yellow fever, 39 percent of the whites died, whereas no blacks died at Touro.

With the notable exception of yellow fever, both the free and the slave populations suffered from the same maladies. After removing the records of yellow fever patients from the sample, we compare the maladies of the free patients with those of the enslaved patients (table 4). Diarrhea and dysentery were more common for the enslaved patients, as were psychological and pregnancy disorders.²³ In contrast, free patients were twice as likely to suffer from malaria as the enslaved patients. For most other maladies, there was little difference between the free and the enslaved patients. In particular, physical injuries, which were commonly caused by occupational accidents, were equally likely for the free and the enslaved patients (accounting for 11.6 percent of the free patients and 9.9 percent of the enslaved patients). These figures suggest that owners did not casually expose their slaves to hazardous occupations, at least when compared to the free population.

Finally, we test our model of selective health care treatment by considering two maladies that are not the result of occupational injuries. Diarrhea and dysentery, which are typically caused by poor sanitation, affected slaves of all ages, especially the young and the old. By considering only those patients with these maladies, we recalculate the per capita admission rates and regress them on the predicted slave prices using ordinary least squares.²⁴ The regression coefficient is positive and statistically significant, indicating that slaves with higher prices were more likely to be admitted to the hospital (table 2).

Residents and the Demand for Hospital Care

We examine the robustness of our empirical results by restricting the sample of hospital admissions to long-term residents of New Orleans. Owners from outside the area may have viewed New Orleans hospitals as a substitute for providing medical care on the plantation. Consistent with this argument, some hospitals advertised their willingness to treat slaves from adjacent counties, and rural physicians sometimes complained about competition from urban hospitals (Postell 1951: 139; Savitt 1978: 194). If rural planters sent slaves to urban hospitals for medical care, then the hospital's service area extended beyond the city boundaries, potentially affecting our estimates of the population at risk and the probability of hospital admission.

Restricting the sample to long-term residents (of one year or more) allows us to exclude the records of those patients originating outside New Orleans. In addition, transients were often underenumerated by the decennial census, especially in urban areas. Underenumeration creates a downward bias in the population estimates and an upward bias in the per capita hospital admission rates. Because many of the transients were young adults, the upward bias is especially problematic for this age group. We mitigate this potential bias by removing the records of transients from the sample. If the transients were enumerated in the census, however, omitting their records creates a downward bias that works against the predictions of our model.

Transients (who resided in the city for less than one year) accounted for about one-third (34 percent) of the enslaved patients admitted to Touro. As expected, the transients were typically younger than the long-term residents of the city: the average age of the transients was less than 25 years, whereas the average age of residents was over 31 years. Removing the records of transients reduces the number of patients in our sample to 438 slaves. Per capita admission rates are recalculated for each age group and then regressed on the predicted slave prices (table 2). Consistent with the predictions of the model, the correlation between per capita admissions and the predicted prices is positive and statistically significant.

Slave Traders and Physicians

New Orleans slave traders were frequent customers at the hospital and accounted for about 14 percent of the enslaved patients admitted to Touro.

The slaves owned by traders were a select group. To increase their profits, most traders preferred to deal in higher-valued, prime-aged slaves (Pritchett and Freudenberger 1992; Pritchett and Chamberlain 1993; Pritchett 1997). Even if all slaves had equal access to medical care, most patients owned by traders would have been prime-aged. Consequently, the observed correlation between the probability of hospital admission and the market valuation of the slave may reflect the patronage of slave traders rather than the owners' selective investments in the health of their slaves.

Traders may have treated their slaves differently than other owners. Because they were in the business of buying and selling slaves, most traders did not have long-term relationships with their slaves.²⁵ Traders were not paternalistic owners and sought to maximize their short-term profits. Removing the records of traders' slaves from the sample should increase the likelihood of finding evidence of paternalism among slave owners.

The Touro Hospital admission records provide evidence of the profit-making calculations of slave traders. According to Richard Tansey, New Orleans slave trader Bernard Kendig purchased unhealthy slaves at discounted prices and resold them at a substantial markup. Tansey (1982: 170–71) believed that Kendig concealed the slaves' maladies when he resold them, practicing fraud against unsuspecting buyers. Unbeknownst to Tansey, however, Kendig used the services of Touro Hospital for the treatment of his slaves, which suggests an alternative interpretation of the trader's actions. Kendig may have purchased unhealthy slaves with the intent of curing them and reaping a capital gain from the increase in their prices. Kendig's investments in health care, of course, came at a cost. For slaves admitted to the hospital, Kendig spent on average \$26.28 per slave for hospital care. One of his slaves, Adam, was treated for an encysted tumor with hernia and accrued a hospital bill of \$133. Although we have not been able to calculate a rate of return for Kendig's health care investments, some were clearly financial losses.²⁶ Twenty-five of Kendig's slaves were admitted to Touro Hospital, and three died there.

A comparison of the characteristics of patients owned by traders versus those owned by nontraders provides insight into the motives of nontrading owners. If traders treated their slaves as did other owners, then one could discount claims of owner paternalism. In fact, most of the patients owned by traders were prime-aged slaves: 68 percent were aged 16 to 30 years. In con-

trast, 59 percent of the slaves owned by nontraders were prime-aged. These figures suggest that traders were less likely than other owners to provide hospital care for their lesser-valued slaves. Although this comparison might be interpreted as evidence of owner paternalism, one should note that most slaves owned by traders were prime-aged. For example, Tansey (*ibid.*: 166) finds that, between 1852 and 1860, 80 percent of the slaves traded by Kendig were also prime-aged. Kendig did not seek hospital admission for children and older adults because he owned few of them.

Because of their expertise, physicians were uniquely positioned to profit from the slave trade. Like professional traders, doctors may have purchased ailing slaves with the intent of nursing them back to health and selling them for a profit.²⁷ The physicians' advantage over other speculators was their ability to identify those ailing slaves most likely to recover. J. King of New Orleans advertised in a Kentucky newspaper his willingness to purchase slaves rendered "unfit for labor by Yaws, Scrofula, Chronic Diarrhea, Negro Consumption, [and] Rheumatism." Planters and owners wishing to sell their slaves "on reasonable terms" were instructed to contact him (Coleman 1940: 188). In another newspaper advertisement, T. Stillman of Charleston, South Carolina, promised to pay "the highest cash price" to "any person having sick Negroes, considered incurable by their respected Physicians, and wish[ing] to dispose of them" (Deyle 2005: 159). The hubris of some physicians may have led them to purchase slaves considered incurable by others. Alternatively, Steven Deyle (2005: 159) suggests that the slaves were purchased for use as involuntary subjects for Stillman's medical experiments. Further examples include Thomas Hamilton, Marion Sims, and Nathaniel Bozeman, who, in addition to Stillman, experimented on slaves for profitable gains from discovered remedies (Washington 2006: 54–55). To reduce their costs, physicians may have used less valuable slaves as the subjects for their experiments. Including the records of these slaves in our sample might create a bias in our regression results. For fear of public outcry, physicians who experimented on slaves preferred to do so in private. Because of its public access, most slaves admitted to Touro Hospital were probably not subjected to medical experimentation.

Omitting the records of slaves owned by traders and physicians has little additional effect on our sample or our regression results. Few slaves were owned by physicians. Many slaves owned by traders (especially interregional traders) were transients; consequently, their records were omitted from the

sample previously. Overall, omitting the slaves owned by traders and physicians reduces the sample size from 438 to 427 slaves. Not surprisingly, the gender-age distribution of the Touro patients remains virtually the same as discussed in the previous section, as do the regression results for the revised sample (table 2).

Other New Orleans Hospitals

We would like to compare the characteristics of slaves admitted to Touro Hospital with those of slaves admitted elsewhere. Previously we argued that owners chose the level of medical care for their slaves based on the slaves' market values. Consistent with our argument, most slaves admitted to Touro Hospital were higher-valued, prime-aged males. Such selective provision of health care, however, may have been unique to the owners who patronized Touro. Although other New Orleans hospitals admitted slaves, most of their admission records have not survived or are of limited use for this study.

Charity Hospital, the oldest and largest hospital in the city, admitted few slaves. Both the Circus Street Infirmary and Dr. Beard's Eye Infirmary treated slaves in addition to whites, but the admission records have not survived (Matas 1962: 235). Hotel Dieu admitted slaves, and their records endured, but hospital officials did not record patients' ages. Without information on ages, we cannot compare Hotel Dieu's records with Touro's or use Hotel Dieu's admission records to test the predictions of our model.²⁸

Warren Stone, a founder of the Medical College of Louisiana (now Tulane University), operated a New Orleans hospital known as Stone's Infirmary. The slaves residing in this hospital were enumerated in the 1850 decennial census under Stone's name (U.S. Bureau of the Census 1850). Because enumerators recorded age and gender, these records may be compared to those of Touro Hospital. As seen in figure 3, the slaves enumerated in Stone's Infirmary were primarily young adults: 47 of the 67 slaves were aged 20 to 39 years. No children or elderly slaves were present in the hospital: the youngest slave was aged 17 years, whereas the oldest was aged 50 years. Like the slaves admitted to Touro, most of the slaves enumerated in Stone's Infirmary were male, making up 63 percent of the patients. The census records suggest that higher-valued slaves, again like the slaves admitted to Touro Hospital, were more likely to be admitted.

Previously, we demonstrated that similar maladies affected the free and

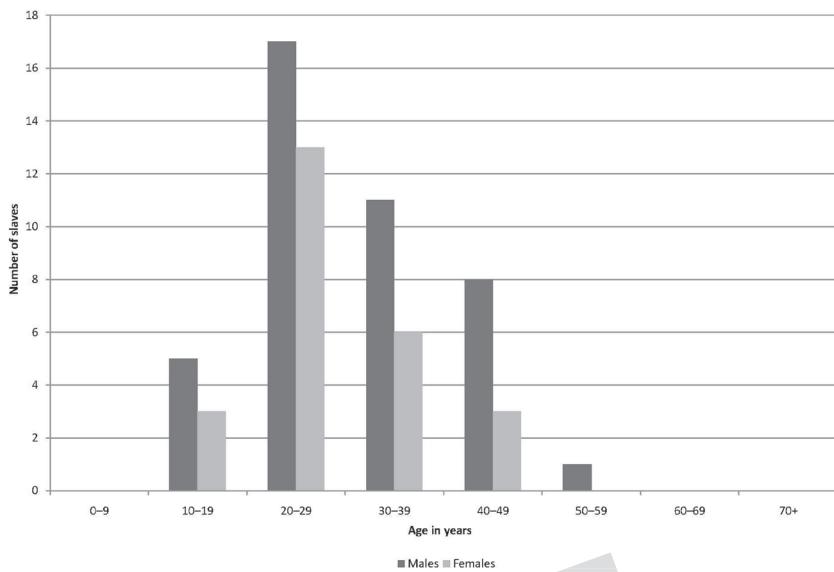


Figure 3 Age distribution of enslaved patients, Stone's Infirmary, 1850

Source: U.S. Bureau of the Census 1850: 347.

enslaved patients, with the notable exception of the higher incidence of yellow fever among the free patients. The gender and age characteristics of the free and the enslaved patients were also quite similar. Males accounted for 73 percent of the enslaved patients and 81 percent of the free patients. In addition, young adults aged 18 to 30 years accounted for 57 percent of the enslaved patients and 61 percent of the free patients (figure 4). Although an analysis of the health care decisions of the free population is beyond the scope of this article, the similarities between the two populations of patients are striking. Previously, we argued that owners made selective investments in the health care of their slaves, thus accounting for the prevalence of higher-valued slaves among those admitted to Touro Hospital. Because of selective admissions, we anticipate that more enslaved than free patients would have been prime-aged. The similarities between the free and enslaved patients suggest that the free patients were making similar calculations regarding the provision of their hospital care or that other factors influenced the admission of slaves.

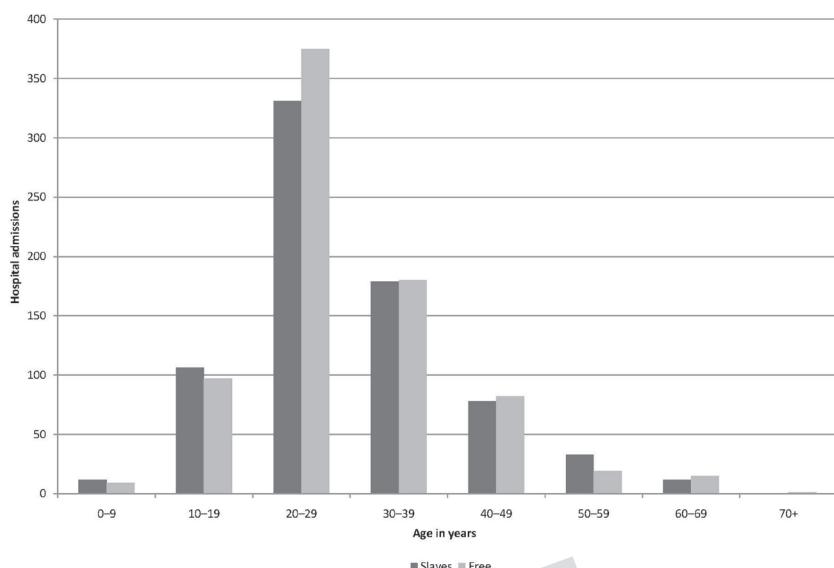


Figure 4 Age distribution of enslaved and free patients, Touro Hospital, 1855–60
Source: Touro Hospital Admissions Records 1855–60.

The Phillips Hypothesis

During the 1850s New Orleans slave prices increased dramatically: the average price of a prime-aged male more than doubled, equaling \$1,500 (or more than 10 times per capita income) by 1860. Phillips (1918: 387) thought that rising slave prices provided powerful insurance for the health of slaves: “Business prudence required expenditures with almost a lavish hand when endangered property was to be saved. . . . The higher the price of slaves, the more stringent the pressure upon the masters to safeguard them from disease, injury and risk of any sort.”

Rising prices allow us to identify the effect of increased slave prices on hospital admission, independent of the slave’s age. Higher prices increased the marginal benefit of health care and, because Touro’s treatment cost remained constant at one dollar per day, increased the probability that an ailing slave was admitted to the hospital. As a consequence, more children and older adults should have been admitted as well, not just prime-aged slaves. Using a probit regression, we estimate the probability that a Touro patient



PQ: Added zero before decimal as elsewhere, OK?

the relative number of children and older adults admitted to the hospital. Predicted values derived from the probit regression confirm this result. When the average price of a prime-aged male equaled \$1,000, the predicted probability that the patient was prime-aged equaled 70 percent. At the higher price of \$1,500 (observed in 1860), the predicted probability equaled 49 percent, a decrease of 21 percentage points, or 30 percent. These regression results are another indication that the admission decisions of owners depended on the prices of slaves.

Discussion

According to Phillips (1929: 214), owners “cherished” their slaves not only as “property of high value but also as loving if lowly friends.” Because of this happy coincidence of greed and affection, Phillips thought that owners provided adequate if not excellent care for their slaves. Mary L. Marshall (1938: 119) notes “that aside from all humanitarian phases of the subject, a planter’s slaves represented the greatest and most important part of his property, and property must be cared for.” Other historians believed that alienable property rights did not provide adequate protection for slaves. Carter G. Woodson (1922: 107) writes that slaves “were not generally cared for when sick.” Although some owners cared for their slaves, Kenneth M. Stampp (1956: 315) found that “others were guilty of astonishing neglect” and lacked “a practical concern for the protection of their property.” Most owners preferred to treat their own slaves rather than pay for a doctor. “In a word, the *a priori* argument for slave health in terms of a property interest, has only a partial validity,—men have been known to neglect even their live stock” (Shryock 1930: 174–75).³⁰

We argue that the care provided by owners depended on the market value of slaves. To use the words of Phillips and Stampp, owners “lavished” health care on their valuable slaves and “neglected” those with little or no market value. Rather than provide a lifetime of care, as suggested by a doctrine of paternalism, owners provided care to increase their wealth. Because prime-aged males commanded higher market prices, they also received better health care than other slaves. As shown in the article, children and the elderly were notably absent among the slaves admitted to Touro Hospital, indicating that only the highest-valued slaves received hospital care. Owners cared for slaves when it paid to do so.

Appendix Touro Hospital admissions, 1855–1860 (OLS regression results)

Sample	Intercept	Relative slave price regression coe cient	R ²	Mean of dependent variable
All slaves (n = 751)	−0.035	0.160* (0.025)	0.222	0.0542 (0.0789)
Slaves diagnosed with diarrhea or dysentery (n = 130)	−0.011	0.038* (0.008)	0.139	0.0096 (0.0236)
Residents (1 year or more) (n = 438)	−0.013	0.085* (0.019)	0.124	0.0346 (0.0563)
Residents, no slaves owned by traders or doctors (n = 427)	−0.012	0.082* (0.019)	0.116	0.0341 (0.0563)
Relative slave price				0.5590 (0.2330)

Sources: Touro Hospital Admission Book 1855–60; U.S. Bureau of the Census 1864; Kotliko 1992: 38.

Notes: The number of observations equals 140, corresponding to the product of 2 genders and 70 ages. For each age and gender, the dependent variable equals the quotient of the number of admissions and the 1860 New Orleans slave population for each age and gender. Relative slave price, derived from Kotliko 1992, equals the quotient of the predicted slave price for each age and gender and the predicted price of a prime-aged male. Standard errors are listed in parentheses.

*p < .05.

Notes

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- 1 In addition to New Orleans, slaves received hospital care in Augusta, Georgia (Phillips 1918: 404); Richmond and Norfolk, Virginia (Savitt 1978: 192–94); Charleston, South Carolina, and Montgomery, Alabama (Goodson 2003: 228); Mobile, Alabama (Wade 1964: 140); Atlanta, Georgia (Washington 2006: 107); and Savannah, Georgia; Natchez, Mississippi; and Spring Hill, Louisiana (Postell 1951: 139).
- 2 Death rates in New Orleans were more than three times greater than those in Charleston or Baltimore (Warner 1989: 237). Yellow fever epidemics plagued New

- Orleans during the nineteenth century, which partly accounts for the disparity in death rates.
- 3 These facilities included Charity Hospital, the Circus Street Infirmary, Dr. Beard's Eye Infirmary, Hotel Dieu, Stone's Infirmary, Touro Hospital, and Luzenberg's Hospital (Postell 1951: 138). Touro was a relatively small hospital by contemporary standards, with only 24 beds. During an emergency, however, its capacity could be increased to 80 beds (Burnett 1979: 2). Such an emergency occurred in 1858, when admissions increased because of a yellow fever epidemic (table 1).
 - 4 Our model of hospital care is presented from the viewpoint of the owner rather than of the slave. Although a slave's health depended on both his or her actions and those of the owner, the latter bore financial responsibility for any hospital expenses. Because the owner decided whether to seek hospital care for the slave, the model is written from the owner's viewpoint. Harriet A. Washington (2006: 30) confirms this belief: "Ominously for blacks, owners, not the enslaved workers, determined safety and rationed medical care. . . . Because professional care was expensive, most owners dosed their own slaves as long as they could before calling in physicians."
 - 5 The recovered slave's price might have differed from the healthy slave's price. For example, the slave who had recovered from a contagious disease, such as smallpox or yellow fever, might have been more valuable than other slaves because of the conferred immunity. (New Orleans sales advertisements sometimes touted that a slave was fully acclimated, meaning that he or she had been previously exposed to the local disease environment.) If the slave had not fully recovered, however, then his or her market price was less. In the following model, we assume that the price of the recovered slave equaled that of the healthy slave.
 - 6 According to Robert W. Fogel (1989: 68, 70): "There was little difference between the way in which planters priced their slaves and the way they priced their other capital assets. They were as precise in valuing human attributes as those of their livestock or equipment." Fogel found that crippled or unhealthy slaves sold at substantial discounts.
 - 7 We assume that α and β are constants. These probabilities, however, depended on the healthy slave's market value. Under these circumstances, the marginal benefit of hospital care would be an increasing function of the price of the healthy slave if $(\alpha - \beta)/V_i^h > -(\alpha - \beta)/V_i^h$.
 - 8 Let $A = 1$ if MB_i is greater than the price of hospital care, $A = 0$ otherwise. As discussed below, the price of hospital care was the same for all slaves.
 - 9 More formally, if we define $P(A = 1 | S = 1)$ as the probability of admission conditional on the slave becoming sick, the model predicts that $P(A = 1 | S = 1)/V_i^h > 0$. Our null hypothesis is that the conditional probability of hospital admission is independent of the price of the healthy slave, or $P(A = 1 | S = 1)/V_i^h = 0$.
 - 10 The Circus Street Infirmary in New Orleans advertised the availability of private rooms for "favorite servants" at a rate of two dollars per day. Whether owners purchased this luxury for their slaves is uncertain. However, the existence of this service may be evidence of owners' paternalistic tendencies (Matas 1962: 231). For other

- examples of “uneconomical” spending by owners, including providing slaves with treatment specialists or months in nursing homes, see Kiple and King 1981: 169.
- 11 Other descriptions of the hospital were less complimentary. For example, when Frederick Loeber arrived in the city to assume the position of house surgeon in 1869, he described Touro’s physical plant as “an old plantation house surrounded by factories and boiler shops on one of the noisiest streets in the city” (Burnett 1979: 34).
 - 12 Touro Hospital advertised rates of one dollar a day for slaves (Cohen’s New Orleans Directory 1855: 229). Of slaves with recorded rates, 96 percent were charged one dollar per day. Only one slave was admitted for free.
 - 13 Admission records include information on the patient’s name, age, occupation, birthplace, last place from, and length of residence in New Orleans; dates of admission, discharge, or death; malady; responsible party; length of hospitalization; marital status; and rate per day.
 - 14 The skin color or race of the patient was not entered in the admission records. Alternative proxies for enslaved status were considered (such as the combination of no recorded last name and a southern birthplace), but they did not significantly improve the accuracy of our predictions.
 - 15 In many cases, the recent arrivals were residents of other parishes sent by their owners for treatment in the city.
 - 16 Among enslaved patients, 179 were identified as female; 30 patients could not be identified. In 1860 the New Orleans enslaved population equaled 14,484, of whom 6,007 (41 percent) were male (U.S. Bureau of the Census 1864: 193).
 - 17 Regression results using Kotlikoff’s age-price profile are presented in the appendix. Our empirical results are robust and are not affected by our choice of the age-price profile.
 - 18 In the following analysis, we assume that the probability of admission for healthy slaves, or $P(A = 1 | S = 0)$, was 0. Some slaves may have feigned illness to avoid labor. Of the 1,580 patients admitted to Touro, doctors determined that 4 were “not sick.” All of these patients, however, were whites. If slaves feigned illness, such behavior should not affect our empirical results unless it is positively correlated with the market price of the slaves. On suspected cases of slaves feigning an illness, see Fogel and Engerman 1974: 119; Savitt 1978: 162–65.
 - 19 William D. Postell (1951: 148–50) provides estimates of the number of workdays lost on plantations, whereas Todd L. Savitt (1978: 147) provides morbidity estimates for slaves employed in industries. Unfortunately, these data are not age and gender specific, and they are not appropriate for our study. In an earlier draft of our article, we use the estimates of mortality rates made by Fogel (1992) for the U.S. enslaved population circa 1830. Fogel’s estimates follow the typical “bathtub” pattern of populations in less developed countries, with high mortality rates for the young and old and low mortality rates for adolescents and young adults. A significant modification of a standard life table regards the increased estimated mortality of infants (Steckel 1986). Significantly for this study, the pattern of hospital admission is opposite to

that of mortality: children and elderly adults are underrepresented among the hospital records even though they faced the greatest mortality risks. Consequently, using Fogel's mortality estimates tends to increase the statistical significance of our results. Unfortunately, substituting mortality rates for morbidity rates creates a systematic bias in favor of accepting our model. Because prime-aged slaves were more robust, a life table will underestimate their morbidity rates relative to those of the young or old, consequently creating an upward bias in the observed relationship between the probability of hospital admission and the market valuation of slaves. Instead, we assume that all slaves were equally likely to become sick regardless of age. This assumption creates a bias against our model, strengthening our results.

- 20 20 Because the census aggregates population figures, we assume a uniform age distribution within each reported age-gender group. The total number of observations equals 140, corresponding to the product of 2 genders and 70 ages.
- 21 21 Consistent with our hypothesis that owners took better care of higher-valued slaves, many of the enslaved patients were skilled. Unfortunately, the skill distribution of New Orleans slaves is unknown. Regarding Charleston's census of 1848, Claudia Goldin (1976: 42) estimates that 17 percent of the adult male labor force had substantial skills. If we classify the industrial workers as skilled, at least 30 percent of Touro's enslaved patients had skills.
- 22 22 Due to the similarity of symptoms, diarrhea and dysentery are grouped together in our study.
- 23 23 In terms of relative and absolute numbers of pregnancy-related admits, eight slaves had abortions; abortion may not have been socially acceptable for the free population, as no free patients were hospitalized for this procedure. Bankole (2001: 532–33) suggests that the mother and child "represented valuable investment property" for the owner, perhaps accounting for a higher number of pregnancy admissions among the enslaved at Touro. Some pregnant slaves may have delivered by cesarean section, an operation not yet accepted for the free population but increasingly practiced on slaves (*ibid.*). Alternatively, pregnancy complications such as prolapsed uterus or vesicovaginal stula affected a higher rate of enslaved women (Washington 2006: 63–64). Psychological disorders included nostalgia, hysteria, and "dirt eat[ing]."
- 24 24 Per capita admission rates from diarrhea tend to overestimate the conditional probability of hospital admission for the young and the old relative to the conditional probability for young adults. By overestimating the conditional probability of hospital admission for these lower-priced slaves, we create a bias against the predictions of our model.
- 25 25 For example, New Orleans trader Bernard Kendig sold 56 percent of his slaves within 30 days of initial acquisition (Tansey 1982: 163).
- 26 26 As a deterrent to fraud, most New Orleans slaves were sold with an implied warranty. On the effectiveness of these warranties, see Schafer 1987.
- 27 27 Physicians were accustomed to speculating on slaves. Referring to slave ships arriving in Louisiana, C. C. Robin (1966: 236) writes that "the Negroes are sold as soon as they arrive in the colony, the sick ones being bought up at reduced prices, by sur-

- geons, who speculated on curing them. This is one of the common means whereby surgeons made their fortunes in the colonies”
- 28 Hotel Dieu admitted 285 slaves in 1859 and 265 slaves the following year, which exceeds the number of enslaved patients at Touro for the corresponding years (table 1). Using the recorded first names of the patients, we infer that 55 percent of the enslaved patients at Touro and Hotel Dieu were male.
 - 29 Slave prices did not have a significant effect on the admission decisions of free patients.
 - 30 In a related point, Herbert Aptheker (1943: 131) notes that animals were valuable property, yet “society does find it necessary to maintain societies for the prevention of cruelty to animals and even to children.”

References

- Aptheker, Herbert (1943) *American Negro Slave Revolts*. New York: Columbia University Press.
- Bankole, Katherine O. (1998) *Slavery and Medicine: Enslavement and Medicinal Practices in Antebellum Louisiana*. New York: Garland.
- (2001) “African females and the antebellum hospital experience.” *Journal of Black Studies* 31: 517–38.
- Burnett, Walter M. (1979) *Touro Hospital*. Baton Rouge, LA: Moran.
- Cohen’s New Orleans Directory for 1855 (1855) New Orleans: Office of the Picayune.
- Coleman, J. Winston (1940) *Slavery Times in Kentucky*. Chapel Hill: University of North Carolina Press.
- Deyle, Steven (2005) *Carry Me Back: The Domestic Slave Trade in American Life*. New York: Oxford University Press.
- Duval, John (1959) “Medical practice in the antebellum South.” *Journal of Southern History* 25: 53–72.
- Fett, Sharla M. (2002) *Working Cures: Healing, Health, and Power on Southern Slave Plantations*. Chapel Hill: University of North Carolina Press.
- Fogel, Robert W. (1989) *Without Consent or Contract: The Rise and Fall of American Slavery*. New York: Norton.
- (1992) “The life expectation of U.S. slaves c. 1830,” in R. W. Fogel, R. A. Galantin, and R. L. Manning (eds.) *Without Consent or Contract: Evidence and Methods*. New York: Norton: 285–86.
- Fogel, Robert W., and Stanley L. Engerman (1974) *Time on the Cross*. Boston: Little, Brown.
- Genovese, Eugene D. (1976) *Roll, Jordan, Roll: The World the Slaves Made*. New York: Vintage.
- Goldin, Claudia (1976) *Urban Slavery in the American South, 1820–1860*. Chicago: University of Chicago Press.
- Goodson, Martia G. (2003) “Enslaved Africans and doctors in South Carolina.” *Journal of the National Medical Association* 95: 225–33.

- Johnson, Walter (1999) Soul by Soul: Life inside the Antebellum Slave Market. Cambridge, MA: Harvard University Press.
- Jordan, Weymouth T. (1950) "Plantation medicine in the Old South." *Alabama Review* 3: 83–107.
- Kiple, Kenneth F., and Virginia H. King (1981) Another Dimension to the Black Diaspora: Diet, Disease, and Racism. Cambridge: Cambridge University Press.
- Kotlikoff, Laurence J. (1992) "Quantitative description of the New Orleans slave market, 1804 to 1862," in R. W. Fogel and S. L. Engerman (eds.) *Without Consent or Contract: Technical Papers on Slavery*. New York: Norton: 31–53.
- Marshall, Mary L. (1938) "Plantation medicine." *Bulletin of the Medical Library Association* 26: 115–28.
- Matas, Rudolph (1962) *The Rudolph Matas History of Medicine in Louisiana*, ed. John Duval. Baton Rouge: Rudolph Matas Trust Fund by Louisiana State University Press.
- Phillips, Ulrich B. (1918) *American Negro Slavery*. New York: Appleton.
- (1929) *Life and Labor in the Old South*. Boston: Little, Brown.
- Postell, William D. (1951) *The Health of Slaves on Southern Plantations*. Baton Rouge: Louisiana State University Press.
- Pritchett, Jonathan B. (1997) "The internal slave market in the United States." *American Economic Review* 87(5): 1216–1238.

- (1864) Population of the United States in 1860. Washington, DC: U.S. Government Printing Office.
- Wade, Richard C. (1964) Slavery in the Cities: The South, 1820–1860. New York: Oxford University Press.
- Warner, Margaret H. (1989) “Public health in the Old South,” in Ronald L. Numbers and Todd L. Savitt (eds.) Science and Medicine in the Old South. Baton Rouge: Louisiana State University Press: 226–55.
- Washington, Harriet A. (2006) Medical Apartheid: The Dark History of Medical Experimentation on Black Americans from Colonial Times to the Present. New York: Doubleday.
- Woodson, Carter G. (1922) The Negro in Our History. Washington, DC: Associated.

