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# Financial Barriers and Utilization of Medical Services in Prison: An Examination of Co-payments, Personal Assets, and Individual Characteristics

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## **Abstract**

Although research has found that requiring incarcerated individuals to pay fees for medical service decreases use, there are still important unanswered questions about this association: 1) Is the copayment fee a barrier to those seeking medical attention? 2) If so, what individual factors are associated with viewing the copayments as the reason to avoid seeing a medical professional? Using 2012 survey data collected from 45 incarcerated persons housed in a maximum security prison on the East Coast, it was discovered that over 70% of the men surveyed reported avoiding medical services at least once in the past three months due to the five dollar copayment. Further, participants with higher levels of education were significantly less likely to indicate the co-payment fee was a barrier and avoid getting medical attention, relative to those with lower levels of education. Lastly, potential explanations and policy suggestions are discussed.

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## **Keywords**

Prisoners, Prison, Healthcare, copayments

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## Abstract

Although research has found that requiring incarcerated individuals to pay fees for medical service decreases use, there are still important unanswered questions about this association: 1) Is the copayment fee a barrier to those seeking medical attention? 2) If so, what individual factors are associated with viewing the copayments as the reason to avoid seeing a medical professional? Using 2012 survey data collected from 45 incarcerated persons housed in a maximum security prison on the East Coast, it was discovered that over 70% of the men surveyed reported avoiding medical services at least once in the past three months due to the five dollar copayment. Further, participants with higher levels of education were significantly less likely to indicate the co-payment fee was a barrier and avoid getting medical attention, relative to those with lower levels of education. Lastly, potential explanations and policy suggestions are discussed.

## Introduction

The dramatic rise in incarceration rates during the 1980s and 90s coincided with rising health care costs for the correctional system in the United States (Delgado and Humm-Delgado, 2009). Decades of rapid prison growth and the associated costs of operation (Kyckelhahn, 2012) coincided with a mounting aging inmate population and concomitant rising health care costs. Faced with the financial reality of escalating correctional expenditures, federal and many state correctional systems implemented a mandatory “fee for service,” or co-payment system, including for correctional health care (Awofeso, 2005a; Gipson and Pierce, 1996; Rold, 1996; Weiland, 1996). The copayment fee system, which ranges in amount, requires incarcerated individuals to pay a fee in order to receive correctional-based health care. The primary stated goals of co-payment systems are to generate revenue and reduce correctional healthcare costs via lower utilization of services as the fee might eliminate or at least lower unnecessary use of services (Glick et al., 2017; Rold, 1996; Weiland, 1996). However, it does not appear charging incarcerated individual’s fees for service has resulted in creating substantial monetary returns (Awofeso, 2005a; Gottschalk, 2014).

Currently, all U.S. federal prisons and most state prisons implement an inmate co-payment system (Awofeso, 2005b). However, according to Hyde and Brumfield (2003), published studies about the effects of copayments on health and healthcare usage in prisons are “scarce” (p. 372). Further, although some research has suggested that charging an incarcerated person for medical services reduces utilization (Gipson and Pierce, 1996), there are still questions regarding how the copayments for medical

visits affect healthcare usage. Specifically, the current study examined the following two questions: 1) To what extent do those incarcerated view medical co-payments fees as barriers to seeking medical care? 2) What individual factors are associated with viewing the copayment fee as prohibitive to seeking medical care? For example, do one's available financial resources dictate whether one seeks medical attention?

Understanding the complex relationship between mandatory co-payment fees and utilization of correctional healthcare is important, as incarcerated persons have higher rates of pre-incarceration illness than the general population and, due to the nature of confinement, are at greater risk of exposure to infectious disease than their non-incarcerated counterparts (Gibson and Katzenbach, 2006). This population, particularly incarcerated men, may also experience interpersonal violence during confinement and subsequently require medical attention (Massoglia, 2008; Pollack, Khoshnood and Altice, 1999). Further, when an incarcerated person delays or foregoes necessary health care and treatment, their health-related condition may worsen, thus becoming more serious for the individual and potentially more costly for the correctional institution. Recent research has also highlighted how the presence of acute health conditions are associated with various acts of misconduct (Grosholz and Semenza, 2018). Lastly, there could be negative public health consequences (Schnittker and John, 2007). Once released, a formerly incarcerated individual with an untreated communicable disease may pose a risk to infecting others once back in their community (Macmadu & Rich, 2015).

## Literature review

### *Quality and access to medical care in correctional institutions*

In the U.S., the Supreme Court has been clear in ruling that incarcerated persons are constitutionally protected to receive treatment that a medical professional deems necessary (Friedman, 1992). However, there have been many questions concerning the quality of health care administered and more recently, if incarcerated individuals should share some of the costs (Awofeso, 2005b). As part of the 1976 Supreme Court case *Estelle v. Gamble* (429 U.S. 97), an incarcerated person was constitutionally guaranteed the right to health care. Denying an incarcerated person medical care for a serious and necessary medical condition would amount to “deliberate indifference,” thus violating the Eighth Amendment of the U.S. Constitution, prohibiting cruel and unusual punishment (Rold, 1996). However, how or who pays for medical services was not explicitly articulated (Shields, 1995).

In the 1983 case *City of Revere v. Massachusetts General Hospital* (463 U.S. 239), where questions surfaced about who should pay for treatment of a suspect wounded by police attempting to escape after a robbery, the Court ruled that it was up to states to determine how the medical care is paid for, as long as medical care is provided to all who are incarcerated. States, or in some cases, the Department of Corrections (DOC), thus cannot withhold necessary medical care from those who are incarcerated but can make laws requiring they help pay for their medical care (Quinn, 2009).

Although an incarcerated person cannot be denied medical care for lack of funds, courts have ultimately determined they can be charged fees for medical services

regardless of their current financial situation (Awofeso, 2005a). While it was argued in Colorado in *Collins v. Romer* 962 F.2d 1508 (1992) that requiring all those who are incarcerated to pay \$3 for medical visits forced them to choose between medical care and necessary hygiene products, ultimately after a legislative amendment to assess individuals a fee only when they request to see a physician, it was held constitutional (Rold, 1996). When an incarcerated person in a Pennsylvania State Correctional Institution sued (*Reynolds v. Wagner* – 936 F. Supp. 1216, 1996) over the co-payment policy arguing he could not afford to pay the fee (and thus sacrificing or delaying medical treatment), Judge Samuel Alito, prior to his appointment to the Supreme Court of the United States, noted the defendant bought candy and other small indulgences. Ultimately, the court concluded that small co-payments did not delay medical care, as incarcerated individuals were not necessarily forced to choose between medical care and other essentials (Quinn, 2009).

#### *Co-payments for health care in correctional institutions*

Co-payments for incarcerated individuals were introduced in the mid-1990s by some state correctional institutions as one of many cost-cutting attempts in response to an aging prison population and general rising health care costs (Hyde and Brumfield, 2003). By 2000, Congress passed the Federal Prisoner Health Care Act mandating fees for service for all incarcerated persons in Federal Prisons (The Federal Prisoner Health Care Co-Payment Act, 2000). Despite arguments (e.g. Awofeso, 2005b) that co-payments threaten individuals' health and offer little, if any monetary saving

(Gottschalk, 2014), the trend of requiring incarcerated persons to pay a portion of their health care “has become increasingly common” (Anno, 2004, p. 298).

For non-chronic serious medical care, an incarcerated person can typically request to see a physician via a signup sheet in their housing unit (often colloquially termed “sick call”). For these self-initiated health care requests, depending on the state and policy, he or she may be charged anywhere from \$2 to \$10 per health care visit. Further, they may also be charged for related prescriptions (including common over the counter medications) (Anno, 2004; Hyde and Brumfield, 2003). Although there have been a number of challenges to state co-payment systems, courts have generally upheld carefully drafted co-payment systems, ones that do not ultimately deny access for necessary medical care (e.g. co-payment exceptions for chronic illness and providing services even if the incarcerated person does not have the required funds in his or her account) (Rold, 1996).

Overall, research has established that requiring people in the non-incarcerated population to pay for a portion of their health care visits reduces visits to a physician (Brook et al., 1984; Kiil & Houlberg, 2014; Shapiro, Ware, and Sherbourne, 1986). Research in the prison setting has similarly found that after the introduction of a co-payment system, utilization of medical services decreases (for a review of copayments in correctional health setting see Glick et al., 2017).

The Federal Bureau of Prisons (BOP) reported experiencing a decrease in the number of people seeking medical attention six months after the co-payment system was put into practice; utilization decreased by 33% (Office of the Inspector General,



2008). Likewise, at the state and county level, Weiland (1996) notes that according to officials at the Harris County Jail in Houston, Texas after the initiation of a co-payment system, sick call was utilized at a lower rate. Officials in two New Jersey counties noted they experienced a 46% and 30% decrease in sick call after they implemented fee-for-service programs. These results seem to be consistent with a number of other states that displayed a reduction in medical utilization ranging from a 16% to 50% reduction (Gipson and Pierce, 1996; Stana, 2000).

More recently, Hyde and Brumfield (2003) assessed the impact of a \$3 co-payment for self-referred sick care visits that were not associated with an ongoing serious medical condition. Examining approximately 700 incarcerated females and males in two Idaho State Correctional Institutions, results suggested the use of medical services decreased significantly. Prior to the implementation of the co-payment system, there was an average of 276 sick calls per month per 100 inmates; after the introduction of a co-payment system, this dropped to 170 sick calls per month. Overall, this represented an almost 40% drop in use of services for males and females (Hyde and Brumfield, 2003).

Lastly, studies focusing exclusively on incarcerated females have displayed comparable results, demonstrating that co-payments likely curb the utilization of medical services (Hatton, Kleffel, and Fisher, 2006; Stoller, 2001). Fisher and Hatton (2010), using six focus groups comprised of 31 women recently released from jail or prison, found the fees-for-service hindered/limited their access to medical care. Many

of the previously incarcerated women indicated the co-payment was a financial barrier and thus avoided sick calls.

*Justification for present study*

The present study seeks to broaden research on co-payments for health services inside prisons. Although research suggests co-payments reduce health care utilization, the inquiries by the institutions/administrators were rather rudimentary, comparing baseline aggregate numbers. According to Rold (1996), many early studies on co-payment in prisons lack rigor and do not conclusively inform our knowledge regarding the decisions by those incarcerated and the broader impact of co-payment systems. Related, it does not appear that any research has revealed, “which inmates no longer go to sick call after the commencement of such programs” (Rold, 1996, p. 138). To fill these gaps, the current research attempts to address what individual factors of those incarcerated predict their utilization of the medical services. Prior research alludes to the financial barrier of the co-payment and a general lack of funds as main reasons for not seeking correctional-base health care. To date, however, this has not been empirically tested.

Copayments are more detrimental to those with few resources (Simon et al., 1996) and people convicted of a crime are disproportionately from socioeconomically disadvantaged backgrounds (Awofeso, 2005a). Once incarcerated, those who are medically able and without disciplinary custody status may have the opportunity to work. However, their pay is meager (Ross and Richards, 2002), far below minimum wage and has remained generally stagnant over the past decade. Also, individuals may also be

charged monthly fines and fees related to their criminal conviction, which is garnished from any earned wages. In contrast, medical co-payment fees in many states have more than doubled over the last 15 years (Harner, Wyant, and Da Silva, 2017; Kinsella, 2004). Further, an incarcerated person may still need to purchase personal items, such as soap, deodorant, and toothpaste. Assessing what constitutes a financial barrier and determining whether any personal items are necessary is at the heart of the co-payment debate.

Proponents of co-payment systems argue that those who are incarcerated do not have to choose between medical care and essential items because they either have enough resources to afford both or fee policies encourage them to be responsible in how they prioritize their spending (Federal Bureau Prisons, 2005; Lopez and Chayriques, 1994). Opponents of fees for medical services argue that an incarcerated person who lacks financial resources is being forced to choose between health care and buying hygiene products or making telephone calls. Those incarcerated with external financial resources (for example, external financial support from a family member or friend) are more likely to have the necessary funds to seek medical attention, whereas those without might forgo or delay medical care (Rold, 1996).

Currently, little is known about the correlates of individuals who are seeking medical attention and who do not because of the copayment. In general, it is hypothesized for those who desire to go to sick call, that those with fewer financial resources (having less money in their bank accounts, not receiving financial support from others, or not having a prison job) would perceive the \$5 dollar copayment as a

barrier to seeking health care. In contrast, participants with more financial resources (those who could afford amenities such as cable TV, and tobacco or snacks from the commissary) have discretionary money, and thus could afford the copayment.

## **Methods**

In the summer of 2012, flyers placed throughout a maximum-security prison located on the East Coast of the United States solicited participants for a study broadly related to financial needs and concerns of incarcerated men. Ultimately, 45 males agreed to participate and were interviewed.<sup>1</sup>

### *Survey instrument and procedures*

The authors developed the questionnaire for this study with input from two formerly incarcerated individuals (one female; one male). The formerly incarcerated individuals reviewed drafts of the questionnaire, recommended additional questions and provided feedback, particularly in terms of helping to ensure the language used was accessible for those incarcerated. The Institutional Review Board (IRB) affiliated with our academic institution and the Department of Correction's research review board approved this investigation. Participation in this study was voluntary and confidential. No names or identification numbers of the participants were provided to or recorded by the researchers. Participants did not receive any incentives (money, time out of work, reduction in sentence) for their participation. Over approximately two weeks, separate

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<sup>1</sup> The convenience sample of 45 men were drawn from an equal number of participants from four of the five major cellblocks may have helped ensure a more representative sample, as individuals are in part assigned to cellblocks due to varying risk classifications. Individuals from one major cellblock did not have the opportunity to participate because this cellblock was used for intake and housed very recent arrivals. Further, after potential participants were read the informed consent, no participant refused to be interviewed.

interviews were conducted in a semi-private area (a single prison cell that was converted into a counselor's office that was outside the listening range of staff and incarcerated persons), each lasting approximately 30 minutes.

Prior to the administration of the survey, the first author read aloud an informed consent statement and provided a written copy to potential participants. The structured interview guide consisted of approximately 60 questions and was read aloud by the first author who conducted all interviews and recorded responses by hand. The survey began by asking basic demographic information such as age, race, education level, material status, prison job status as well as current offense related questions (e.g. how many years incarcerated for current sentence). Next, a series of questions asked the amount of money currently in their account, how much they spend on average each month in prison, and a series of questions pertaining to their personal belongings such as owning a prison-issued television (and paying for cable services) and their commissary purchase history (such as food, tobacco products, and toiletries). Two 10 point Likert scales were used to measure both self-reported physical and mental health (1 awful... 10 excellent). The survey concluded with three open-ended questions related to financial concerns.

#### *Dependent variable*

The outcomes of interest, whether participants avoided seeking self-initiated health care because of the copayment fee (ACOPAY) was measured via a single question, "Have you ever not gone to medical because you have to pay a co-pay". Further, if the participant indicated yes to this question they were asked "how many

times have you not gone to medical in the past 3 months because of the co-pay fee?" (NUMCOP).

#### *Independent variables*

The following dummy variables focusing on sociodemographic characteristics and health indicators were created: race (white/nonwhite); age (18-37/38+); education (some high school or less/graduated high school, GED, or some college); years incarcerated for current sentence (10 years or less/11 or more); self-rated physical health (rated 6 and below/7 and above); and self-rated mental health (rated 7 and below/8 and above).

To gauge a participants' personal assets the subsequent dummy variables were constructed: current balance (\$30 dollars or less/\$31 dollars +); current prison job (yes/no); whether or not they receive financial support from family/friends (yes/no); have cable television (yes/no); tobacco products (yes/no); snacks (such as cinnamon buns/potato chips) (yes/no).<sup>2</sup>

#### *Sample characteristics*

The majority of the 45 participants were non-white and had a mean age of 39 years old. On a scale of 1 to 10 with higher scores indicating better health, on average participants rated their current mental health (mean = 8.2) slightly higher than their physical health (mean = 7.3). Approximately two-thirds had a prison job at the time of the interview. In general, participants worked a maximum of 30 hours a week (avg = 29

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<sup>2</sup> Variables were dichotomized via a median or mean split.

hours), earning between 19 to 42 cents an hour.<sup>3</sup> Most participants received financial support from their non-incarcerated friends and family members. However, the amount of money placed into their accounts varied greatly, with deposits described as sporadic at best. Sample characteristics appear in Table 1.

Table 1: Characteristics of Participants

	N	Mean	SD	Min	Max
Age	45	38.8	11.0	22	63
Race (White = 1/non-White = 0)	45	0.27	0.45	0	1
Years incarcerated for current sentence*	45	13.1	10.7	0	42
Education (HS, GED or above = 1/Less than HS = 0)	45	0.78	0.42	0	1
Self-rated physical health (1 = low)	45	7.27	1.62	0	10
Self-rated mental health (1 =low)	45	8.20	1.86	0	10
Marital status (married = 1/not married = 0)	44	0.09	0.29	0	1
Prison job (yes = 1/no = 0)	45	0.67	0.48	0	1
Pay rate for current prison job (cents per hour)	29	0.33	0.12	0.19	0.51
Hours paid per week	29	29.0	0.46	15	40
Financial help from outside (yes = 1/no = 0)	45	0.91	0.29	0	1
Amount others put into account per month	42	\$70 (Mdn 35)	75.8	0	300
Current money total in account**	45	\$68 (Mdn 30)	81.7	0	300
Average money spend per month	45	\$75 (Mdn 52)	59.9	0	275
Cable TV (yes = 1/no = 0)	45	0.55	0.50	0	1
Snacks from commissary (yes = 1/no = 0)	45	0.55	0.50	0	1
Cigarettes or loose tobacco (yes = 1/no = 0)	45	0.35	0.48	0	1

\* Respondents indicated the offenses they were currently incarcerated for ranged from drug sales to murder and approximately 40% of the inmates interviewed (19/45) had life-sentences. People serving a life sentence among other demographics were overrepresented in the sample; therefore, caution should be taken in attempts to make generalizations to a larger population prison population.

\*\*Participants after stating the current amount in their account were asked whether this total was “more than normal, less than normal or average.” Overall 33 of the 45 respondents (73%) indicated the amount was average, 6 (13%) indicated the amount was more than normal and 6 indicated it was less than normal.

### *Analytic plan*

All the quantitative data were initially entered into IBM SPSS 24 by the second author and crosschecked by the first author. To address if any sociodemographic characteristics (e.g. race, age, education, years incarcerated) and health indicators (e.g.

<sup>3</sup> One inmate interviewed was allowed to work up to 40 hours a week because he was one of a small number of inmates who were able to provide basic adult education. Further, one inmate indicated he earned 51 cents an hour for a job cutting grass/landscaping performed in the community.

self-rated physical and mental health) were linked with whether one avoided medical services in prior 3 months due to co-payment, chi-square tests were performed. Additionally, a series of chi-squared analyses were conducted to examine the relationship between a participants' personal assets (e.g. current balance, prison job, cable TV etc.) and if the copayment fee was the barrier to the use of correctional-based medical services in the prior 3 months. Multivariate models were considered, but with the small sample size ( $n = 45$ ) and associated problems (Nemes, Jonasson, Genell, and Steineck, 2009) chi-squared tests were performed with each variable.<sup>4</sup>

Next, negative binominal regression models were used to examine the number of times incarcerated individuals avoided seeing a medical professional because of the copayment in the prior three months (NUMCOP). Negative binominal regression models were used because of over-dispersed count data (mean = 1.76; overdispersion = .49). Again, due to the small sample size, predictor variables were examined separately.

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<sup>4</sup> When logistic regression models were tested with a maximum of three predictors the standard errors rose exponentially, this may have been due to a lack of variation in some of the explanatory variables. Thus, based on the large stand errors and the drawbacks of multivariate models with small samples, chi-square tests seemed most appropriate.



## Results

Eighty percent (36/45) of participants reported avoiding medical at least once at some time during their current incarceration due to the copayment. Specifically in the past 3 months, 71% (32/45) reported they avoided seeking meeting with a health care professional at least once. Further, of those who reported avoiding seeing a medical professional because of the co-payment fee during the prior three months, over 62% (20/32) reported avoiding it more than once (see table 2).

Table 2: Utilization of self-initiated medical services (n = 45)

	Mean	SD	Min	Max
Ever avoided medical due to copay (yes = 1, no = 0)	0.80	0.41	0	1
Avoided medical past 3 month due to copay (yes = 1, no = 0)	0.71	1.75	0	1
Past 3 months number of times avoided medical due to copay*	1.76	1.75	0	6

\* Of the 32 men who indicated they had avoided medical in the prior three months because of the copay, 12 stated they avoided it once. Followed by seven people who avoiding it twice, six individuals avoided it three times, two individuals avoided it four times, three people avoided it five times and two people avoided it six times due to the copayment over their prior three month period.

Of the socioeconomic indicators evaluated, only education level was significantly related to utilization of self-initiated health care ( $\chi^2 = 5.22 (1), p < 0.05$ ). Specifically, participants with higher educational levels (high school graduate, GED, or some college) were less likely to avoid seeking medical care compared to those with lower levels of education (some high school or less). In fact, all ten of the respondents who did not graduate from high school or earn a GED reported that the copayment fee was a barrier for them seeking medical treatment (see table 3).<sup>5</sup>

<sup>5</sup> Considering that only one variable was statistically significant ( $p < 0.05$ ) and due to space limitations the chi-square results for each variable are not presented.

Table 3: Chi-squared test results between education and viewing copayment as a barrier to medical services in the prior three months (N = 45)

	Level of education	
	Less than high school	High school and above
Avoided medical due to copayment	10 (100%)	22 (62.9%)
Did not avoid medical due to copayment	0 (0%)	13 (37.1%)

Note:  $X^2 = 5.22^*$ ,  $df = 1$

\*  $p < .05$

Examining other individual demographic factors, self-identified race and age are related to utilization of prison health care, with whites relative to nonwhites and those 37 and younger being slightly less likely to avoid seeking medical care due to the copayment. In terms of years in prison, those who had been incarcerated for their current sentence 10 years or less were more likely to avoid medical care in the past three months because of the fees for service, compared to those who had been incarcerated for 11 or more years. Those with lower self-rated physical and mental health were more likely to indicate that the copayment was a barrier to seeking treatment compared to those with higher rated physical and mental health.

In terms of personal assets, no variable was statistically significant at the .05 level, but participants with lower account balances (\$30 dollars or less) were more likely to avoid utilizing medical services because of the co-payment fee ( $X^2 = 1.17 (1)$ ,  $p = 0.27$ ). Not having a prison job and not receiving financial support from family or friends on the outside were both associated with being more likely to avoid medical, but the differences were statistically negligible. Similarly, minor distinctions were found between those who reported currently having tobacco products and those who did not, with tobacco users more likely to avoid seeing a healthcare professional because of the copayment fee. Those without cable TV, one of the more expensive items to maintain in

prison, were slightly more likely to report the copayment as an obstacle to sick call. Lastly, considerable differences were discovered between those reporting having personal snacks purchased from commissary and those reporting not. Those who did not currently have any personal snacks, such as cinnamon buns or potato chips, also indicated the medical fee was a barrier.

Turning attention to the negative binomial regression models run to predict the number of times an incarcerated person did not seek medical attention because of the copayment, as with the chi-square results, only the education variable was statistically significant at the  $p < .05$  level [( $\exp(b)=1.037$ ),  $p = .044$ ]. Those with higher levels of education had lower log counts in terms of the number of times avoiding medical due to the copayment. Some variables related to personal assets (e.g. those with lower account balances) were in the hypothesized direction but did not reach conventional levels of statistical significance.

Table 4: Negative binomial regression model of number of times avoided medical services in prior 3 months due to copayment (N = 45)

	<i>b</i>	SE	<i>exp(b)</i>	<i>p</i> <
Intercept	-.712	.365	.491	<i>p</i> = .05
Education (Less than HS = 0/ HS, GED or above = 1)	-.422	.209	.656	.05

Note: Dependent variable - how many times have you not gone to medical in the past three months because of the copayment? Thirty-two participants (71 % of the sample) reported avoiding medical at least once in the prior 3 months due to the copayment.

## Discussion

To reiterate, survey data from 45 incarcerated individuals was analyzed to gauge the degree to which copayments in prison affect utilization of medical care as well as if any individual factors predict utilization. Overall, the results from the nonprobability sample analyzed here suggest, related to self-initiated healthcare usage, the copayment fee was a financial barrier. Further, chi-squared and negative binomial regression tests showed the incarcerated men surveyed with less education were significantly more likely to indicate the copayment fee was a barrier to medical attention.

Considering participants who worked earned from 19 to 42 cents an hour and can generally only work 30 hours a week, it is not surprising that many might find paying five dollars prohibitive. This finding aligns with prior work reporting that once prisons implemented a co-payment system, the utilization of medical services dipped (e.g. Gipson and Pierce, 1996; Hyde and Brumfield, 2003; Weiland, 1996).

In terms of individual differences, those with lower levels of education were significantly more likely to indicate the copayment fee was an impediment to seeing a medical professional. Research in a variety of settings outside the prison context has found that those with more formal education are healthier (Caldwell, 1990; Elo, 1992; Mueller, Patil, and Boilesen, 1998). Education may indirectly link to better health via improved economic conditions, social-psychological resources, and health routines (Ross and Wu, 1995). The direct mechanisms for the relationship between education

and health are less clear; but those with more education may be more likely to trust science and they have necessary cognitive skills to understand and make use of health related information (Cutler & Lleras-Muney, 2006; Kenkel, 1990). Although research in general has linked education with increasing financial resources (e.g. Duncan and Magnuson, 2005) the phi coefficient for the dummy variables lower/higher levels of education and 30 dollars or less/31 dollars plus did not demonstrate a significant association.

To reiterate, only one variable was statistically significant at the .05 level; however, considering the sample size, this was not surprising. Small samples generally lack statistical power thus making it more difficult to generate a *P*-value of less than 0.05 even when there are differences between the groups one is studying (McCluskey and Lalkhen, 2007). Therefore, even though the majority of variables were not statistically significant, a number of the associations were in the anticipated direction and deserved further discussion.

As expected, those with less money in their account were also more likely to indicate they avoided sick call because of the copayment. Those with 30 dollars or less in their account might be hesitant to spend such a large portion of their money to see a medical professional. In addition to the five-dollar copayment, an incarcerated person is charged an additional five dollars for each prescription (capped at 10 dollars). Therefore, with the prospect of having at a minimum 5 dollars, and potentially 15 dollars, deducted from their account, one might understandably avoid spending, in some cases, all of their savings.

The current research cannot directly address current Supreme Court Justice Judge Samuel Alito's assertion that incarcerated persons can afford the copayment if they choose to spend money on non-essential items such as candy bars (Quinn, 2009). On one hand, it was found that those with more money, snacks, or cable TV were less likely to avoid sick call. Further, in some cases participants did not even have 5 dollars in their account (about one-third of the sample) and were not purchasing snacks or paying for cable TV. Thus, practically speaking, they were not choosing to purchase non-essential items over sick call. On the other hand, it was that true some had over 100 dollars in their account and/or possessed various types of snacks from the commissary, and/or cable TV and still mentioned they avoided seeking medical help due to the 5 dollar copayment. On the surface, this might suggest that some could afford the copayment but chose not to and/or are spending money on items deemed non-essential. However, recent research might shed light on some of this decision-making.

Mullainathan & Shafir (2013) found that perceiving having more needs than resources, what they term "scarcity," alters how individuals make decisions. When individuals are faced with scarcity, concerns about insufficiency or a lack of resources affected their cognitive function resulting in less logical decisions. In terms of the participants in the survey, not only did a number earn very little or have little money in their inmate accounts, when asked to rate how stressed they were about their finances in prison (1 = low ... 10 = high), over 25 percent rated their financial stress as a 10 with a mean of 6.7 and median of 7. Therefore, in some cases what some might term an

irrational decision to purchase non-essential items over seeing a medical professional might be explained by scarcity and its related cognitive challenges.

Even though one might expect those with worse health to seek medical attention, our findings suggest those with lower self-rated physical and mental health reported not signing up to see a doctor or nurse. However, one could also suspect that those who are more reluctant to seek medical attention are in worse health in part because they have not sought needed treatment for some medical conditions. Again, the differences between groups were relatively minor.

#### *Limitations*

Results and conclusions based on a convenience sample of 45 individuals from one maximum-security men's prison should be drawn cautiously. For example, respondents on average self-reported good physical health, thus it is possible participants were relatively healthy compared to those who did not. Further, some incarcerated individuals might have been too ill to participate. Although the nonprobability sample is certainly a limitation, the current study adds to the existing research on copayments for healthcare in prisons. Beyond examining aggregate or more general patterns of sick call utilization after the implementations of the fee, the current study attempted to gauge the extent to which the fee affects individuals' decisions to seek self-initiated medical care, as well as to uncover individual factors predicting the utilization of the medical services by those who are incarcerated.

### *Conclusion*

In sum, the majority of participants reported not going to see a medical professional because of the service fee, thus the copayment would appear to be reducing utilization for those who feel they need treatment. Considering that just over 70 percent of the sample commented that the copayment fee was the reason they did not seek medical professional care, policymakers and administrators need to weigh some of the possible negative consequences of reduced treatment such as increased misconduct (Grosholz and Semenza, 2018), disease or illness transmission/outbreak, and related costs compared to potential saving due to reduced usage. Since seeing a physician early could prevent more harmful conditions, early detection might mitigate against the transmission to others, including correctional officers, and citizens on the outside once released. Males are generally reluctant to seek medical care (Noone and Stephens, 2008), and the requirement of a copayment might simply add another barrier to those incarcerated making use of medical services. Yet, avoiding medical aid can significantly negatively affect one's health. Administrators might want to consider altering or at least reviewing the current policies.

It is clear utilization decreases with the imposition of a copayment, but future research should determine the health consequences of this policy. Further, as correctional institutions continue to explore opportunities for cost saving, research should examine if a fee threshold exists that could reduce frivolous requests to see a health care professional but not deter individuals from requesting care when needed. Some improvements in health might be made by lowering the fee for self-initiated



medical visits to a more manageable price. The income generated via copayments is at best modest (Awofeso, 2005a), the State would not likely lose considerable revenue by reducing the fee. Considering incarcerated persons who have jobs are earning approximately 20 to 50 dollars a month (in addition to money they might receive from the outside), some very small fee could still lower unnecessary use of services without establishing a barrier to those who need the care.

## References

- Anno, B. J. (2004). Prison health services: An overview. *Journal of Correctional Health Care*, 10, 287-301.
- Awofeso, N. (2005a). Prisoner healthcare co-payment policy: A cost-cutting measure that might threaten inmates' health. *Applied Health and Economics & Health Policy*, 4(3), 159-164.
- Awofeso, N. (2005b). Making prison health care efficient: Inmates need more organised and more preventive health care in emptier prisons. *British Medical Journal*, 331, 248-249.
- Brook, R. H., Ware, J. E., Rogers, W. H., Keeler, E. B., Davies, A. R., Sherbourne, C. D., ... Newhouse, J. P. (1984). *The effect of coinsurance on the health of adults: Results from the RAND health insurance experiment*. Santa Monica, CA: RAND Corporation.
- Caldwell, J. (1990). Cultural and social factors influencing mortality in developing countries. *The Annals of the American Academy of Political and Social Science*, 510, 44–59.
- City of Revere v. Massachusetts General Hospital* (463 U.S. 239, 1983). JUSTIA US Supreme Court. Retrieved from <https://supreme.justia.com/cases/federal/us/463/239/>
- Collins v. Romer*, 962 F.2d 1508 (10th Cir. 1992). Casetext. Retrieved from <https://casetext.com/case/collins-v-romer>

- Cutler, D. M., & Lleras-Muney, A. (2006). *Education and health: evaluating theories and evidence* (No. w12352). National bureau of economic research.
- Delgado, M. & Humm-Delgado, D. (2009). *Health and health care in the nation's prisons: Issues, challenges, and policies*. Lanham, MD: Rowman & Littlefield Publishers, Inc.
- Duncan, G. J., & Magnuson, K. A. (2005). Can family socioeconomic resources account for racial and ethnic test score gaps?. *The Future of Children*, 35-54.
- Elo, I. T. (1992). Utilization of maternal health-care services in Peru: The role of women's education. *Health Transition Review*, 49-69.
- Estelle v. Gamble*. (429 U.S. 97, 1976). JUSTIA US Supreme Court. Retrieved from <https://supreme.justia.com/cases/federal/us/429/97/>
- Federal Bureau Prisons. (2005). U.S. Department of Justice: Program Statement. Retrieved from [http://www.bop.gov/policy/progstat/6031\\_002.pdf](http://www.bop.gov/policy/progstat/6031_002.pdf).
- Fisher, A. A. & Hatton, D. C. (2010). A study of women prisoners' use of co-payments for health care. *Women's Health Issues*, 20, 185-192.
- Friedman, M. C. (1992). Cruel and unusual punishment in the provision of the prison medical care: Challenging the deliberate indifference standard. *Vanderbilt Law Review*, 45, 921-949.
- Grosholz, J. M., & Semenza, D. C. (2018). Assessing the relationship between physical health and inmate misconduct. *Criminal Justice and Behavior*, 0093854818775467.
- Harner, H. M., Wyant, B. R., & Da Silva, F. (2017). "Prison ain't free like everyone thinks": Financial stressors faced by incarcerated women. *Qualitative Health Research*, 27(5), 688-699.

- Hatton, D. C., Kleffel, D., & Fisher, A. (2006). Prisoners' perspectives of health problems and healthcare in a US women's jail. *Women Health, 44* (1), 119-136.
- Hyde, R. & Brumfield, B. (2003). Effect of co-payment on the use of medical services by male and female prisoners. *Journal of Correctional Health Care, 9*(4), 371-380.
- Gibbons, J. J. & Katzenbach, N. D. B. (2006). Confronting confinement - A report of the Commission on Safety and Abuse in America's prisons. *Wash. UJL & Pol'y, 22*, 385.
- Gipson, F. T. & Pierce, E. A. (1996). Trends in state inmate user fee programs for health services. *Journal of Correctional Health Care, 3*(2), 159-177.
- Glick, A. L., Ehret, M., Banfi, V., & Shelton, D. (2017). Effectiveness of Co-Payment Policies in the Correctional Healthcare Setting: A Review of Literature. *Journal for Evidence-based Practice in Correctional Health, 1*(2), 2.
- Gottschalk, M. (2014). *Caught: The prison state and the lockdown of American politics*. Princeton University Press.
- Kenkel, D. S. (1994). The demand for preventive medical care. *Applied Economics, 26*(4), 313-325.
- Kiil, A., & Houlberg, K. (2014). How does copayment for health care services affect demand, health and redistribution? A systematic review of the empirical evidence from 1990 to 2011. *The European Journal of Health Economics, 15*(8), 813-828.
- Kinsella, C. (2004). *Corrections health care costs*. Council of State Governments.
- Kyckelhahn, T. (2012). State corrections expenditures, FY 1982-2010. *Bureau of Justice Statistics, 2012*, 1-14.

- Lopez, M., & Chayriques, K. (1994). Billing prisoners for medical care blocks access. *National Prison Project Journal*, 9(2), 1-2.
- Macmadu, A., & Rich, J. (2015). Correctional health is community health. *Issues in Science and Technology* 32, 1.
- Massoglia, M. (2008). Incarceration as exposure: the prison, infectious disease, and other stress-related illnesses. *Journal of Health and Social Behavior*, 49(1), 56-71.
- McCluskey, A., & Lalkhen, A. G. (2007). Statistics IV: Interpreting the results of statistical tests. *Continuing Education in Anaesthesia, Critical Care & Pain*, 7(6), 208-212.
- Mueller, K. J., Patil, K., & Boilesen, E. (1998). The role of uninsurance and race in healthcare utilization by rural minorities. *Health Services Research*, 33(3 Pt 1), 597.
- Nemes, S., Jonasson, J. M., Genell, A., & Steineck, G. (2009). Bias in odds ratios by logistic regression modelling and sample size. *BMC Medical Research Methodology*, 9(1), 56.
- Noone, J. H., & Stephens, C. (2008). Men, masculine identities, and health care utilisation. *Sociology of health & illness*, 30(5), 711-725.
- Pollack, H., Khoshnood K, & Altice F. (1999). Health care delivery strategies for criminal offenders. *Journal of Health Care Finance*, 26(1), 63-77.
- Quinn, C. (2009). The right to refuse medical treatment or to direct the course of medical treatment: Where should inmate autonomy begin and end? *New England Journal on Criminal and Civil Confinement*, 35, 453-488.

- Reynolds v. Wagner* (936 F. Supp. 1216, 1996). JUSTIA US Supreme Court. Retrieved from <https://law.justia.com/cases/federal/district-courts/FSupp/936/1216/1487555/>
- Rold, W. J. (1996). Charging inmates for medical care: A legal, practical, and ethical critique. *Journal of Correctional Health Care*, 3(2), 129-143.
- Ross, J. I., & Richards, S. C. (2002). *Behind bars: Surviving prison*. Penguin.
- Ross, C. E., & Wu, C. L. (1995). The links between education and health. *American Sociological Review*, 719-745.
- Schnittker, J., & John, A. (2007). Enduring stigma: The long-term effects of incarceration on health. *Journal of Health and Social Behavior*, 48(2), 115-130.
- Shapiro, M. F., Ware, J. E., & Sherbourne, C. D. (1986). Effects of cost sharing on seeking care for serious and minor symptoms. *Annals of Internal Medicine*, 104, 246-251.
- Shields, W. P. (1995). Prisoner health care: Is it proper to charge inmates for health services? *Houston Law Review*, 32, 271-302.
- Simon, G. E., Grothaus, L. C., Durham, M. L., VonKorff, M., & Pabiniak, C. (1996). Impact of visit copayments on outpatient mental health utilization by members of a health maintenance organization. *American Journal of Psychiatry*, 153, 331-338.
- Stana, R. (2000). Containing health care costs for an increasing inmate population: Testimony before the Subcommittee on Criminal Justice Oversight on the Judiciary. U.S. Senate. GAO/T-GCD-00-112. Available: <http://www.gao.gov>.
- Stoller, N. (2001). Improving access to health care for California's women prisoners. California Program on Access to Care. Berkeley, CA: California Policy Research

Center, University of California, 1–173. Available: <http://cpac.berkeley.edu/documents/stollerpaper.pdf>.

The Federal Prisoner Health Care Co-payment Act (2000). Public Law 106- 294.

Available: <http://www.glin.gov/download.action?fulltextId+174101&documentId=72239>.

Weiland, C. (1996). Fee-for-service programs: A literature review and results of a national survey. *Journal of Correctional Health Care*, 3(2), 145-158.