

Comparing Incarcerated and Community-Dwelling Older Men's Health

Susan J. Loeb

Darrell Steffensmeier

Frank Lawrence

The Pennsylvania State University

The purpose of this study is to compare incarcerated and community-dwelling older men's self-efficacy for health management, health-promotion behaviors, and health status. Social cognitive theory was the guiding framework. A sample of 51 incarcerated and 33 community men (age 50 and older) were surveyed. Frequencies and independent samples *t* tests were computed. Inmates reported significantly less participation in health-promotion behaviors ($p < .01$) and attended fewer programs ($p < .05$). The two groups did not demonstrate significant differences in self-efficacy or health status. The latter finding is important because the community men were on average 15 years older. Finding that prisoners attended significantly fewer programs and engaged less often in health-promoting behaviors may be because of lack of availability or awareness of programs to build self-care skills, perceptions that there is not much they can do about their health, a knowledge deficit in regard to health, or insufficient motivation.

Keywords: *elderly; health; men; prison; self-efficacy*

Researchers and policy makers increasingly recognize that inmates, like the general population, are living longer (Adams, 1995; Wheeler, Connelly, & Wheeler, 1995). Older inmates (i.e., 50 years of age or older) are the fastest growing cohort in U.S. prisons today (Aday, 2003; Gal, 2002; Steffensmeier & Motivans, 2000), with a 172.6% increase from 1992 to 2002 (Anno, Gramah, Lawrence, & Shansky, 2004). Besides the aging of the U.S. population as a whole, the increase in older inmates is a product of changes in statutory laws

Authors' Note: This study was funded by a Penn State University College of Health and Human Development Research Seed Grant. Special thanks are extended to Cheryl Reid, RN, BS and Priscilla Myco, RN, BS for their assistance with data collection. Please address all correspondence to SVL100@PSU.EDU.

mandating longer sentences and in correctional officials applying more restrictive parole practices (Steffensmeier & Motivans, 2000). Inmates' health status is believed to be far worse than same-age people in the community (Allen, 2003). Health disparities experienced by older inmates are typically attributed to underlying socioeconomic factors that contribute to unhealthy lifestyles prior to incarceration, unhealthy lifestyles during incarceration, and the general harshness of the prison environment (Fattah & Sacco, 1989). Older male inmates are of particular concern, because men compose an estimated 90% of the prison population (Cooke, 2002), and Galdas, Cheater, & Marshall (2005) reported that men, in general, are less likely to take part in health-seeking behaviors and often display poorer health than do women. Although a sizable and growing literature has developed on the health status and needs of older adults in the general population, relatively little empirically derived knowledge is available on the health, well-being, or needs of incarcerated elders (Loeb & AbuDagga, 2006). Examining the health of older inmates relative to that of older adults in the free world addresses Cohen's (2005) recent assessment that the field of corrections is "a relatively unworked mine" (p. 852) for research in the areas of gerontology and health.

Health of Older Inmates and Self-Efficacy

Older inmates typically rate (via self-reports) their health as fair to bad/very bad (Aday, 1994; Fazel, Hope, O'Donnell, Piper, & Jacoby, 2001; Marquart, Merianos, & Doucet, 2000), though some studies report more positive findings with inmates generally describing their health as good to excellent (Colsher, Wallace, Loeffelholz, & Sales, 1992; Gallagher, 1990). A second contrast is noted between Kratcoski and Babb's (1990) report that prison health professionals believe inmates' health improves during incarceration and other studies based on inmate self-reports, which indicate deteriorating health during incarceration (Colsher et al., 1992; Marquart et al., 2000). These conflicting conclusions notwithstanding, there is consensus that inmates are living longer and aging in prison.

Prolonged incarceration results in aging in place, with estimates placing biological age as much as 10 to 15 years beyond chronological age, and thus increases the likelihood that inmates will leave prison with serious health problems (Aday, 1994; Beckett, Peternelj-Taylor, & Johnson, 2003; Mitka, 2004). Older prisoners are major consumers of corrections' health services (Aday, 2003; Mitka, 2004). Approximately 85% of older inmates experience comorbidity (Watson, Stimpson, & Hostick, 2004). Despite the prevalence

of chronic disease in this population, previously incarcerated elders fail to regularly consult with a health care professional upon return to the community (Parrish, 2003). Neglect of health by older offenders has implications beyond the personal, for rising health care expenses also impact society (Formby & Abel, 1997).

The focus of health care in correctional settings continues to be primarily on the medical supply side of the supply-and-demand equation. Much like in the free world where “demand is overwhelming supply” (Bandura, 2005, p. 245), prison health systems are experiencing service challenges. A contrasting approach is suggested in Bandura’s (2005) social cognitive theory, which embraces “self-management as good medicine” (p. 245) and redirects the focus of care toward demand-side solutions. In this model, triadic reciprocal relationships among behavior, cognition, and environment operate to influence health (Bandura, 1986).

Self-efficacy is the core construct in social cognitive theory and is defined as an individual’s confidence in his or her ability to mobilize the motivation, cognitive resources, and action plans necessary to exert control over the events in his or her life (Wood & Bandura, 1989). Despite older inmates’ general lack of control over much of their life situation, we believe that health self-management is one specific area in which incarcerated individuals may perceive capability to exert some degree of control over their lives while in prison. Individuals’ perceptions of self-efficacy, along with their goals, outcome expectations (e.g., anticipated benefits), and perceived environmental impediments (perceived barriers), regulate health behaviors (Bandura, 2004). Application of Bandura’s theory in nursing and other health-related fields has resulted in interventions that target the reduction of human, economic, and societal costs of chronic health conditions in the general population (Marks, Allegrante, & Lorig, 2005). The aforementioned burdens also exist in the older inmate population and, thus, warrant attention by nurse researchers.

Purpose

The study presented here addresses gaps in the research on health issues involving older inmates in two important ways. First, we draw on Bandura’s (1986, 2005) social cognitive theory as a conceptual framework. Second, we compare the self-efficacy beliefs, health-promoting behaviors, and health status of older male prisoners with community-dwelling older men. Our guiding hypothesis for this descriptive comparative survey study

is that relative to community-dwelling older men, older male inmates will report less self-efficacy for health management, engage in fewer health-promotion behaviors, attend fewer health programs, and have poorer self-rated health. In addition, we explore the most frequently perceived barriers to and anticipated benefits of health behaviors in both older men in prison and their community-dwelling counterparts.

Operational Definitions

The major variables of interest in this study were self-efficacy for health management, perceived barriers to health behaviors, anticipated benefits of health behaviors, health-promotion behaviors, and health status. For this study, self-efficacy for health management is operationalized as the confidence one has in his ability to manage his health now. Our conceptualization of self-efficacy is previously noted.

Perceived barriers to health behaviors are defined as situations that are believed to hinder people from participating in health behaviors (i.e., healthy lifestyles and formal health programs). “Social Cognitive Theory distinguishes between different types of barriers. Some of them are personal impediments that impede performance of the health behavior itself” (Bandura, 2000, p. 307), whereas other barriers are situational impediments, such as lack of health resources or other health-systems impediments. If a barrier is believed to exist, the environment could be described as unsupportive. Barriers were operationalized by a checklist of possible impediments to health behaviors provided on the Older Men’s Health Program and Screening Inventory (OMHPSI; Loeb, 2003).

Anticipated benefits of health behaviors are cognitions, in the form of outcome expectations (e.g., pleasurable effects), that regulate health behaviors to sustain or increase one’s level of well-being or personal fulfillment (Bandura, 2004). Benefits were operationalized by a checklist of anticipated positive outcomes from health behaviors provided on the OMHPSI (Loeb, 2003).

Health-promotion behaviors were operationalized by a composite of how frequently participants engaged in activities adapted from the Health Promotion Activities of Older Adults Measure (HPOAM; Padula, 1997). Items include but are not limited to exercising; eating fruits, vegetables, and whole grains; managing stress; promoting one’s physical safety; and maintaining oral hygiene. For this study, health-promotion behaviors were conceptualized as self-care activities aimed at enhancing the well-being, personal fulfillment, and self-actualization of an individual (Pender, 1987).

Health status was operationalized in two ways, first through a global self-rating of health status and second through tallying the number of current health conditions. We conceptualize health status as how individuals view their own health (Zabalegui, 1994). We recognize that older adults are generally thought to have the tendency to define their health in terms of their ability to function both independently and effectively, irrespective of the presence of diseases (Frenn, 1996; Kaufmann, 1996).

Design

This study used a descriptive comparative survey design to examine for differences in self-efficacy for health management, health-promotion behaviors, and health status between older men living in prison and those living in the community. The most commonly reported perceived barriers to and anticipated benefits of health behaviors were explored in both groups of respondents.

Sample

Convenience samples of 51 older male inmates and 33 community-dwelling older men were surveyed. We operationalized older inmates as anyone 50 years of age or older, because it is the most commonly used lower limit age criterion in the empirical literature examining the health of older inmates (Loeb & AbuDagga, 2006). The same age criterion was applied to the community-dwelling comparison group.

The incarcerated participants were recruited at a minimum-security prison (i.e., tends to house inmates that abide by the institutional regulations and present a lesser risk of escape than inmates living in higher security facilities) in Pennsylvania. A prison official informed us that a disproportionate number of the older inmates at this facility were incarcerated for sexual offenses. More than 60% of inmate participants were older than 40 years of age at their first incarceration; the average length of time served on current sentences was 7.6 years. The community participants were recruited from two rural senior centers in Pennsylvania and one urban senior center in Delaware. All three centers were structured such that elders attended largely daytime programming and/or congregate meals at the locations with varying degrees of frequency. Inclusion criteria for both inmates and community-dwellers were male gender, age 50 or older, and ability to understand and speak English.

The typical inmate participant was White (56.9%) and divorced (49.0%) with a high school diploma or GED (45.1%). The typical community-dwelling participant also was White (54.5%) with a high school diploma or GED (51.5%); however, the most commonly reported marital status was married (36.4%). The average age of prison participants was 57.3 years, whereas the average age of community participants was 72.2 years. Additional demographic information is listed in Table 1.

Method

Approvals for the study were obtained from the university institutional review board, the state department of correction's research review committee, and directors of the three senior centers. Specific guidelines for research in prisons were followed as outlined in the Code of Federal Regulations 46, Subpart C (United States Department of Health and Human Services, 2001).

Procedures With Older Men in Prison

The Research and Evaluation chairman at the state department of corrections provided the researchers with a listing of inmates who met the study's inclusion criteria. Corrections officers working in the prison visiting room used the computer-generated list to call the cell blocks and inquire if each listed inmate was willing to meet the interviewer (i.e., first author or her trained assistant). Inmates met with the interviewer individually (with a corrections officer present) and were provided with both oral and written explanations of the study. At that time, the interviewer gave a brief oral description of the types of questions that would be asked and provided a copy of the questionnaire booklet.

The informed consent form was provided to each potential inmate participant and read aloud to him. All were instructed that neither participation nor nonparticipation would influence future parole considerations. Every inmate who met the interviewers agreed to take part in the study. Interviews were conducted one-on-one (the corrections officers left the room before interviews commenced) in the no-contact visiting room. All items on the questionnaire were read aloud to each participant, and responses to each question were immediately transcribed onto a machine-readable questionnaire by the interviewer. The Fleish-Kinkaid readability level for the questionnaire is Grade 8.8.

Table 1
Demographic Data of Inmate and Community-Dwelling Samples

Characteristic	Inmates		Community Dwelling	
	<i>n</i>	%	<i>n</i>	%
Marital status				
Single (never married)	10	19.6	5	15.2
Married	13	25.5	12	36.4
Divorced	25	49.0	6	18.2
Widowed	3	5.9	10	30.3
Race/Ethnicity				
White	29	56.9	18	54.5
Black	13	25.4	14	42.4
Hispanic	3	5.9	0	0.0
American Indian/Alaskan	1	2.0	1	3.0
Asian/Pacific Islander	1	2.0	0	0.0
Mixed race	4	7.8	0	0.0
Education				
Elementary school or less	3	5.9	0	0.0
Some high school	11	21.6	5	15.2
High school or GED	23	45.1	17	51.5
Technical or 2-year degree	3	5.8	4	12.1
Completed 4-year degree	10	19.6	3	9.1
Graduate degree	1	2.0	4	12.1

Procedures With Community-Dwelling Older Men

Interviews with a comparison group of 33 community-dwelling older men were conducted in a quiet and private room in each of three senior centers. Advertisements were distributed, and senior center attendees and employees (employees were included in an attempt to recruit participants in the lower end of our target age range, i.e., 50–65 years) meeting the study requirements signed up for survey interview dates and times with the senior center personnel. As was the procedure with the older inmates, each potential participant met with the interviewer individually and was provided with both oral and written explanations of the study. At that time, the interviewer gave a brief oral description of the types of questions that would be asked and gave a copy of the questionnaire booklet. Interviewers provided elders with a hard copy of the informed consent document and read it aloud to them. Every eligible person who met with the interviewers agreed to take part in the study. Interviews were conducted one-on-one in a private room at each

senior center. Items were read aloud, and responses were immediately transcribed onto the machine-readable questionnaire by the interviewer.

Instruments

Beyond the demographic questions, the survey included Loeb's (2003) OMHPSI, Padula's (1997) HPAOAM, a question on self-efficacy for health management, and several questions specific to incarcerated populations (only items relevant to this article are discussed).

Older men's health program and screening inventory. Health conditions, health programs attended, barriers to and benefits of health behaviors, and self-rated health were assessed through the eight-item OMHPSI (Loeb, 2003). Health conditions, health programs, barriers, and benefits were scored by tallying the affirmative responses for each question (e.g., totaling the number of health programs attended), whereas self-rated health and several other health-related variables were measured on a 4-point Likert-type scale with responses ranging from 1 (*poor*) to 4 (*excellent*). The OMHPSI underwent very minimal modifications to remove responses that were not relevant to a prison sample. The Cronbach's alpha for the scaled items on the inventory was .78 in a previous study of community-dwelling older men. An expert panel of 10 professionals who either studied or worked with older adults established the content validity for the tool for the aforementioned study (Loeb, 2003). In our current study, the Cronbach's alpha with the inmate sample was .78 for the scaled items.

Health promotion activities of older adults measure. Seventeen items from the HPAOAM (Padula, 1997) along with 7 new similarly structured items that were developed based on a review of the literature were administered to measure how frequently participants took part in various health-promotion behaviors. The range of possible responses went from 1 (*never*) to 4 (*always*). A composite score was computed for health-promotion behaviors by totaling responses to the 24 scaled items (possible scores range 24–96), with those engaging in more health-promotion activities scoring higher on the scale. Cronbach's alpha reliability estimates of Padula's (1997) original 44-item instrument ranged from .87 to .93 with community-dwelling elders (Loeb, 2004; Padula, 1997), whereas the alpha for the modified version of the instrument with the inmate sample in our study was .86.

Self-efficacy for health management. Self-efficacy for health management was measured by the question, How confident are you in your ability to manage your health now? Participants rated their degree of confidence on a 4-point Likert scale ranging from 1 (*very nonconfident*) to 4 (*very confident*).

Analysis of Data

The university's survey research center scanned the completed machine-readable questionnaire booklets and compiled data into an SPSS 11.0 data file. Frequency distributions and descriptive statistics were computed to describe the sample, along with their perceived barriers to and anticipated benefits of health behaviors. Independent samples *t* tests were conducted to address the hypotheses. No missing data were encountered because the interviewers read all items aloud to participant groups, the responses were immediately logged onto the machine-readable survey, and no participants refused to answer any questions.

Findings

Table 2 provides a comparison of perceived barriers to and anticipated benefits of health behaviors between the two groups of elder respondents. The inmate and community samples of older men differed in both prevalence of experiencing barriers as well as the types of barriers experienced most frequently. The key findings regarding barriers are as follows. First, the majority of community-dwelling older men reported no barriers (17, 51.5%) to health behaviors, whereas less than one fifth of the older inmates perceived no barriers to health behaviors (10, 19.6%). Next, the mean number of barriers reported by the older inmates was 1.59 ($SD = 1.34$) as compared with 1.15 ($SD = 1.70$) in the community group. Last, the most commonly perceived barrier to health behaviors in the inmate group was "didn't know that any programs or screenings were available" (13, 25.5%); in contrast, the community-dwelling participants' most commonly perceived barrier was "lack of interest" (9, 27.3%).

Regarding anticipated benefits of health behaviors in incarcerated and community-dwelling older men, both groups most commonly responded that they engaged in health behaviors so that they would "feel healthier" (inmates = 48, 94.1%; community = 31, 93.9%). Mean number of benefits in the inmate group was 6.41 ($SD = 2.33$) and 6.94 ($SD = 1.90$) in the com-

Table 2
Perceived Barriers to and Anticipated Benefits of Health Behaviors of Inmate and Community-Dwelling Samples

Barriers and Benefits	Inmates		Community Dwelling	
	<i>n</i>	%	<i>n</i>	%
Perceived barriers to health behaviors				
Unaware any programs are available	13	25.5	3	9.1
Don't know what to do	11	21.6	4	12.1
Feel there is not much you can do	11	21.6	6	18.2
Not very motivated	11	21.6	6	18.2
Not interested	9	17.6	9	27.3
Afraid of making health worse	9	17.6	3	9.1
Don't have the time	4	7.8	5	15.2
Anticipated benefits of health behaviors				
Feel healthier	48	94.1	31	93.9
Feel better about self	44	86.3	29	87.9
Better able to do things you want to do	44	86.3	30	90.9
Have more energy	41	80.4	27	81.8
Feel more mentally alert	39	76.5	27	81.8
Better able to cope	38	74.5	27	81.8
Sleep better	38	74.5	26	78.8
Get to be with other people	29	56.9	28	84.8

community group. In general, the benefits reported were similar in frequency between the two groups, with the exception of one, "get to be with other people." Nearly 85% of the older community-dwelling men viewed getting to be with other people as a benefit of engaging in health behaviors, as compared to less than 57% of the inmate respondents.

We now shift our focus to Table 3, which compares the responses of inmates and community residents to items measuring self-efficacy for health management, attendance at health programs, participation in health-promotion behaviors, self-rated health, and numbers of health conditions. Key findings are, first (in regard to the hypothesis that inmates have less self-efficacy for health management than do the community residents), that community-dwelling older men scored slightly higher than the older male inmates on the single-item measure of self-efficacy for health management; however, the difference was not significant at the .05 level, $t(82) = 1.872$, $p = .065$. Second (concerning the hypothesis that inmates participate in fewer health-promotion behaviors than do community residents), significantly greater overall health

Table 3
Descriptive Statistics of Inmate and Community-Dwelling Samples

Characteristic	Inmate		Community Dwelling	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age ^a	57.31	6.70	72.15	9.66***
No. of health conditions	4.80	2.86	4.94	2.09
Self-rated health	2.76	0.79	3.00	0.61
No. of health programs attended	2.55	1.80	3.64	2.36*
Health-promotion behaviors	73.20	11.48	80.58	8.44**
Self-efficacy for health management	3.43	0.83	3.70	0.47

a. Age is reported here to highlight the magnitude of age differences between the two groups. * $p < .05$. ** $p < .01$. *** $p < .001$.

promotion scores were found in the community-dwelling group, $t(82) = 3.176$, $p < .01$; this difference in health-promotion scores remained significant even after the Bonferroni adjustment for multiple testing was made ($p = .0125$ level). Third (in reference to the hypothesis that inmates attend fewer health programs than community residents), initial support also was established because health promotion program attendance was significantly greater in the community men than in their incarcerated counterparts, $t(82) = 2.389$, $p < .05$; however, this finding did not withstand the application of the Bonferroni adjustment for multiple testing when the significance level was reset ($p = .0125$ level).

Last (pertaining to the hypothesis that older inmates have poorer self-rated health than do community residents), the final hypothesis was not supported ($p < .05$). However, sizable differences in health status are evident because of a dramatic 15-year mean age difference between the prisoners and community residents. The considerable overlap in health problems of inmates and community residents, despite the large gap in their ages, is further evidenced when their frequently reported health conditions are examined. For the inmate group, vision problems were most prevalent (43, 84.3%), followed by high cholesterol and/or triglycerides (30, 58.8%), arthritis (23, 45.1%), and high blood pressure (18, 35.3%). For the community group, vision problems also were the most prevalent (32, 97.0%), followed by high blood pressure (22, 66.7%), high cholesterol and/or triglycerides (17, 51.5%), and arthritis (13, 39.4%).

Discussion

Using survey data from both older male inmates and community-dwelling older men, we make two important contributions. First, we provide a theoretical framework for studying older inmate health. Second, we offer a comparison between incarcerated and community-dwelling older men's health beliefs, behaviors, and status, which provides evidence that we cannot assume that what we know about older men living in community settings directly applies to older men in prison.

Evidence of the importance of different types of barriers to adopting health behaviors, as noted by Bandura (2000), is found in prisoners more frequently experiencing perceived barriers and different distribution of barriers relative to their community-dwelling counterparts. As well, prisoners were concomitantly participating in fewer health-promotion behaviors and attending fewer health programs as compared to the community residents. Of particular concern is the lack of awareness of program availability (which may partly reflect a shortage or absence of health programs), because it is the most frequently reported barrier and because it suggests that the special programmatic needs of older inmates are often left unmet (see also Aday, 1994; Marquart et al., 2000; Reviere & Young, 2004). Improved communication within the prison about available programming is clearly needed. Information gained on inmates' perceived barriers to health behaviors may inform program development and advertisement. Strategizing to assist older inmates in overcoming knowledge deficits, feelings of futility, and insufficient motivation for health behaviors is critically important.

On a more positive note, similarities between the prison and community groups in regard to anticipated benefits of health behaviors (i.e., outcome expectations) are encouraging and may be interpreted as suggesting that if given the opportunity, older male inmates do have what Bandura (1986) referred to as the cognitive and personal factors needed to engage in health behaviors. The distinct difference in reports of the anticipated benefit "get to be with other people" (with community residents reporting it much more frequently) may be explained by the imposed environmental limitations regarding who prisoners are able to interact with on a day-to-day basis. This interpretation is supported by numerous inmates spontaneously reporting to the interviewer, "I have no desire to spend any more time with these other prisoners than I already do." Such responses could be interpreted as indicating that upon release from prison, the inmates' answer to the item might be more in line with that of the community-dwelling participants (if they had the opportunity to spend more time with family and friends rather than other inmates).

Finding no significant difference in self-efficacy for health management between the two groups may be because, at least in part, of our use of a single-item measure for self-efficacy, nonprobability sampling, small sample size, or perceived social desirability of reporting that one possesses confidence in their ability to manage their health. Another possible influencing factor is that only minimum-security inmates participated in this study; a group overrepresented by more highly educated, nonminority offenders than is typical of incarcerated elders as a whole. A more positive interpretation of the similarities between the prison and community groups is that overall the vast majority of older inmates possessed at least some self-efficacy (confidence) in regard to their health self-management abilities. A logical future step would be to undertake intervention studies to test if the improvements in chronic disease outcomes experienced after completion of the Chronic Disease Health Management Program in community samples (Marks et al., 2005) hold for an older inmate population.

Community-dwelling older men's significantly greater engagement in health-promotion behaviors and noteworthy greater attendance at health programming are findings that are likely to be at least in part because of the older inmates encountering fewer opportunities and having less freedom to engage in such health activities (both of which are environmental impediments operating to influence health; Bandura, 2000) rather than inmates placing a low value on health. Many of the older inmates spontaneously reported that their work responsibilities interfered with participation in health programs because programs often were scheduled during the workday. Considering that the backgrounds of many inmates may include less experience with health care providers (also a potential impediment), older prisoners are likely to be less adequately prepared to incorporate health information in their daily lives than are community-dwelling elders.

In light of our confirmation of the prevalence of chronic disease in older inmate populations and our caveat about using a single-item measure of self-efficacy, future researchers might consider applying the Stanford Chronic Disease Self-Efficacy Scale (Stanford Patient Education Research Center, 1996) as an alternative approach to measuring self-efficacy for health management in older inmates. If slightly modified to be relevant to a prison population (e.g., changing exercise examples from swimming and bicycling to running and playing basketball, changing community resources to prison resources, eliminating items on running errands and getting your shopping done), this multiple-item measure holds potential for providing greater insight into prisoners' confidence in discrete areas of health self-management.

Another important inquiry for future research on health and older inmates is surveying correctional officials on specific health programs available to inmates. In addition, qualitative strategies such as focus groups may reveal greater breadth of information in regard to inmate motivation for health behaviors as well as their preferences for program format and delivery.

In closing, the health of male inmates in this study was found to be comparable to that of community-dwelling men who are 15 years older, a result that supports prior assertions that inmates are typically 10 to 15 years older physiologically than chronologically (Aday, 1994; Beckett et al., 2003; Mitka, 2004). In addition, 100% of the prison sample was experiencing comorbidity, which is in line with previous reports of chronic illness prevalence in older inmates (Watson et al., 2004). We believe that this health disparity can be changed if the period of incarceration is viewed by policy makers as an opportunity to improve older offenders' health and the time of release is recognized as a time where the promotion of continuity of care between corrections' health departments and community-health service providers is essential. Delivery of health programs targeted at meeting the needs of older offenders will likely contribute to more humane treatment; greater efficiency within the prison health system; less illness burden on older inmates, their families, and the communities in which they eventually settle; and less financial costs to the taxpaying public (Hammett, 2001; Loeb & Steffensmeier, 2006).

References

- Adams, W. (1995). The incarceration of older criminals: Balancing safety, cost, and humanitarian concerns. *Nova Law Review*, *19*, 465-486.
- Aday, R. H. (1994). Golden years behind bars: Special programs and facilities for elderly inmates. *Federal Probation*, *58*(2), 47-54.
- Aday, R. H. (2003). *Ageing prisoners: Crisis in American corrections*. Westport, CT: Praeger.
- Allen, D. (2003). Prisoners' health: Key concerns. *Nursing Older People*, *15*(7), 6.
- Anno, B., Gramah, C., Lawrence, J., & Shansky, R. (2004). *Correctional healthcare: Addressing the needs of elderly, chronically ill, and terminally ill inmates*. Middletown, CT, and Washington, DC: Criminal Justice Institute and National Institute of Corrections.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bandura, A. (2000). Health promotion from the perspective of social cognitive theory. In C. Abraham, M. Conner, & P. Norman (Eds.), *Understanding and changing health behavior: From health beliefs to self-regulation* (pp. 299-339). Sydney, Australia: Harwood Academic.
- Bandura, A. (2004). Health promotion by social cognitive means. *Health Education & Behavior*, *31*, 143-164.

- Bandura, A. (2005). The primacy of self-regulation in health promotion. *Applied Psychology: An International Review*, 54, 245-254.
- Beckett, J., Petermelj-Taylor, C., & Johnson, R. L. (2003). Growing old in the correctional system. *Journal of Psychosocial Nursing & Mental Health Services*, 41(9), 12-18.
- Cohen, E. S. (2005). Time on their hands, time on our mind. *The Gerontologist*, 45, 848-853.
- Colsher, P. L., Wallace, R. B., Loeffelholz, P. L., & Sales, M. (1992). Health status of older male prisoners: A comprehensive survey. *American Journal of Public Health*, 82, 881-884.
- Cooke, C. L. (2002). Understanding incarcerated populations. *Association of Operating Room Nurses*, 75, 568-576.
- Fattah, E. A., & Sacco, V. F. (1989). *Crime and victimization of the elderly*. New York: Springer-Verlag.
- Fazel, S., Hope, T., O'Donnell, I., Piper, M., & Jacoby, R. (2001). Health of elderly prisoners: Worse than the general population, worse than younger prisoners. *Age and Ageing*, 30, 403-407.
- Formby, W. A., & Abel, C. F. (1997). Elderly men in prison. In J. I. Kosberg & L. W. Kaye (Eds.), *Older inmates: Perspectives in criminology and criminal justice* (pp. 98-112). New York: Praeger.
- Frenn, M. (1996). Older adults' experience of health promotion: A theory for nursing practice. *Public Health Nursing*, 13, 65-71.
- Gal, M. (2002). The physical and mental health of older offenders. *Forum on Corrections Research*, 14(2), 15-19.
- Galdas, P. M., Cheater, F., & Marshall, P. (2005). Men and health help-seeking behavior: Literature review. *Journal of Advanced Nursing*, 49, 616-623.
- Gallagher, E. (1990). Emotional, social and physical health characteristics of older men in prison. *International Journal of Aging and Human Development*, 31, 251-265.
- Hammett, T. M. (2001). Making the case for health interventions in correctional facilities. *Journal of Urban Health*, 78, 236-240.
- Kaufmann, J. E. (1996). Personal definitions of health among elderly people: A link to effective health promotion. *Family Community Health*, 19(2), 58-68.
- Kratcoski, P. C., & Babb, S. (1990). Adjustment of older inmates: An analysis of institutional structure and gender. *Journal of Contemporary Criminal Justice*, 6, 264-281.
- Loeb, S. J. (2003). The Older Men's Health Program and Screening Inventory: A tool for assessing health practices and beliefs. *Geriatric Nursing*, 24, 278-285.
- Loeb, S. J. (2004). Older men's health: Motivation, self-ratings, and behaviors. *Nursing Research*, 53, 198-206.
- Loeb, S. J., & AbuDagga, A. (2006). Health-related research on older inmates: An integrative literature review. *Research in Nursing & Health*, 29, 556-565.
- Loeb, S. J., & Steffensmeier, D. (2006). Older male prisoners: Health status, self-efficacy beliefs, and health-promoting behaviors. *Journal of Correctional Health Care*, 12, 269-278.
- Marks, R., Allegrante, J. P., & Lorig, K. (2005). A review and synthesis of research evidence for self-efficacy-enhancing interventions for reducing chronic disability: Implications for health education practice (part i). *Health Promotion Practice*, 6, 37-43.
- Marquart, J. W., Merianos, D. E., & Doucet, G. (2000). The health-related concerns of older prisoners: Implications for policy. *Ageing and Society*, 20, 79-96.
- Mitka, M. (2004). Aging prisoners stressing health care system. *Journal of the American Medical Association*, 292, 423-424.
- Padula, C. A. (1997). Development of the Health-Promotion Activities of Older Adults Measure. *Public Health Nursing*, 14, 123-128.

- Parrish, C. (2003). Reaching behind the bars. *Nursing Older People, 15*(3), 10-13.
- Pender, N. J. (1987). *Health promotion in nursing practice* (2nd ed.). Norwalk, CT: Appleton & Lange.
- Reviere, R., & Young, V. D. (2004). Aging behind bars: Health care for older female inmates. *Journal of Women Aging, 16*, 55-69.
- Stanford Patient Education Research Center. (1996). *Chronic disease self-efficacy scales*. Stanford, CA: Author. Retrieved July 16, 2006 from <http://patienteducation.stanford.edu/research/sec32.html>
- Steffensmeier, D., & Motivans, M. (2000). Older men and older women in the arms of criminal law: Offending patterns and sentencing outcomes. *Journal of Gerontology B: Psychological Sciences & Social Sciences, 55*, S141-151.
- United States Department of Health and Human Services. (2001). *Additional DHHS protections pertaining to biomedical and behavioral research involving prisoners as subjects, Subpart C* (pp. 20-26). Washington, DC: Author. Retrieved October 26, 2004 from <http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.htm#subpartc>
- Watson, R., Stimpson, A., & Hostick, T. (2004). Prison health care: A review of the literature. *International Journal of Nursing Studies, 41*, 119-128.
- Wheeler, M., Connelly, M., & Wheeler, B. (1995). The aging of prison populations: Directions for Oklahoma. *1995 Oklahoma Criminal Justice Research Consortium Journal*. Retrieved May 15, 2005, from <http://www.doc.state.ok.us/offenders/ocjrc/95/950725A.HTM>
- Wood, R., & Bandura, A. (1989). Impact of conceptions of ability on self-regulatory mechanisms and complex decision making. *Journal of Personality and Social Psychology, 56*, 407-415.
- Zabalegui, A. (1994). Aging matters: Barriers to health. *Nursing Times, 90*, 58-61.