19. The older prisoner and complex chronic medical care

Brie Williams, Cyrus Ahalt, Robert Greifinger

Key points

- Prisoners are often considered geriatric at the age of 50 or 55 years.
- Plans should be made for the increasing use of health care services and medical care costs in the light of the growing number of older prisoners.
- Consideration should be given to developing a geriatric, team-based model of care for older prisoners, particularly those with multimorbidity.
- The medication lists of older adults should be regularly reviewed to avoid specific medications and to limit polypharmacy.
- The physical and mental health status of older prisoners should be assessed by focusing on geriatric syndromes, such as sensory impairment, functional impairment, incontinence and cognitive impairment, which are common and may pose unique risks in prison.
- Specific housing and prison environments should be evaluated and adapted as needed to ensure that older prisoners with limited function or mobility are not at risk for falls or social isolation.
- The risks and benefits of screening tests or medical treatment plans should be discussed with older prisoners, taking into account life expectancy and the individual's goals for care.
- Approaches should be developed to address behavioural infractions among older prisoners with sensory, functional or cognitive impairment, and prison officers and staff educated as needed.
- People who are independent in the community might be functionally impaired in prison. Older prisoners should be assessed for their ability to perform physical prison tasks such as standing to be counted, getting in and out of a top bunk or responding to alarms, and adaptations made as needed.
- Prior to release from prison, an inmate should receive personalized discharge planning, including a bridging supply of medications, post-discharge medical appointments, summarized health records, a social support plan and age-specific community agency referrals.
- Resources should be developed, either prison-based or community-based working in the prison, to provide seriously ill and dying prisoners with palliative and/or hospice care according to individual need.

Introduction

General population ageing is a worldwide trend in nearly all regions outside sub-Saharan Africa, with prisons no exception. The growing number of older prisoners with complex medical co-morbidity has become a global challenge. Over the past decade, while overall prison populations have grown in nations as varied as Turkey (90% increase), Argentina (55%), Kenya (40%), Spain (30%), the United Kingdom (15%), the United States (13%) and China (10%) *(1)*, in many places there has been a concurrent disproportionate growth in the number of older prisoners. In the United States, where the total prison population grew 100% between 1990 and 2009, the number of prisoners aged 55 years or older increased by more than 300% in the same period *(2)*. In Japan, the number of older adults in prison has doubled in the last decade despite just a 30% increase in the number of older Japanese overall. Many other nations are also experiencing an increasing number of older prisoners, reflecting trends in ageing and in criminal justice policy. As societies age, the arrest and sentencing of older adults are on the rise. At the same time, more and more adults are growing old in prisons as countries embrace tougher criminal justice policies, including the increased use of life sentences, stronger drug and immigration laws and mandatory minimum sentencing practices. Regardless of nation-specific criminal justice policies that contribute to these shifting demographics, the growing population of older prisoners is expected to increase as the world population ages, unless there are significant policy changes.

Many prisons now provide primary care to a growing number of medically vulnerable older prisoners. Accordingly, prison health care systems must evaluate and optimize their ability to deliver complex chronic medical and social care for older prisoners if prison administrations are to provide for the basic rights of all prisoners. This imperative is also critical from a fiscal perspective as the ageing population in detention is a principal driver of the rising cost of incarceration, primarily due to greater health care costs *(3)*.

To provide cost-effective and adequate health care to the growing number of older prisoners, prison administrations must first acknowledge the unique challenges associated with the ageing prisoner population. Ageing in general brings with it new physical, psychological and social challenges. Prisons and jails are typically designed for younger prisoners. For older prisoners, this introduces additional challenges to safety, functional ability and

health *(4)*. Additionally, for older adults the health risks following release from prison may be magnified by challenges such as receiving only limited social support, being frail in unsafe neighbourhoods and having complex medication needs *(5)*. Thus, for a growing number of older adults in countries around the world, prisons occupy an important place on the health care continuum.

This chapter applies the fundamental tenets of geriatric medicine to correctional health care to illustrate how to optimize care for older prisoners.

Accelerated ageing: who is old in prison?

The goal of geriatric medicine (and gerontology, its counterpart in nursing and the social sciences) is to increase the health, independence and quality of life of older adults by providing high-quality, patient-centred, interdisciplinary care *(6)*. In the prison setting, geriatric care models may often be appropriate for prisoners who are younger than the 65-year cut-off typically used to define the elderly in the non-incarcerated population. This is because many medically and socially vulnerable adults (such as homeless or impoverished people, refugees and prisoners) experience accelerated ageing, that is, they develop chronic illness and disability approximately 10–15 years earlier than the rest of the population *(7)*. Older prisoners often fall into several categories of the medically vulnerable, owing to a history of poverty, poor access to health care, substance use or other factors. As a result, many criminal justice systems consider prisoners to be older, or geriatric, by the age of 50 or 55 years *(5,7,8)*. Prison health care administrations should take accelerated ageing into account when determining the eligibility criteria for age-related screening tools and medical care protocols.

Geriatric medicine and the multimorbidity model of care

The first step towards optimizing the care of older prisoners is to adapt care models already developed and tested in the fields of geriatrics and gerontology to older prisoner health care. Geriatric medicine uses the multimorbidity model of care. Rather than focus on a single disease, the multimorbidity care model prioritizes the chronic medical conditions that most affect health status and quality of life for each individual *(9)*. As with all older adults, the prevalence of multiple chronic medical conditions in prisoners increases with age. One study from the United States found that 85% of prisoners aged 50 years or older in the Texas prison system (which holds more than 150 000 prisoners of all ages) have one or more chronic medical conditions and 61% have two or more conditions. In contrast, just 37% of prisoners in Texas aged 30–49 years and 16% of those aged under 30 years reported two or more chronic medical conditions *(10)*. Other studies similarly reveal higher rates of chronic illness in older versus younger prisoners for conditions including hypertension, arthritis, heart disease, chronic obstructive pulmonary disease and cancer *(11)*. In Texas, older prisoners were also substantially more likely than other prisoners to have infectious diseases such as TB, hepatitis B and C, methicillin-resistant staphylococcus aureus, syphilis and pneumonia *(8)*.

The multimorbidity care model uses care coordination, patient education and shared decision-making between the health care clinician and the patient to weigh the risks and benefits of each medical decision on the individual patient. In acknowledgement of the complex needs of older adults, geriatric medicine is often practised in teams that include, for example, physician and nurse clinicians, social workers and pharmacists. Many older adults entering prison will not have had extensive contact with the health care system prior to their incarceration, and a complete medical assessment on arrival is often an important first step in diagnosing chronic disease, cognitive impairment and disability. The results of a comprehensive assessment can also help with decisions related to housing, security risk and programming eligibility.

Polypharmacy

A key barrier to the optimal management of chronic disease for older patients is polypharmacy. Defined as the inappropriate use of multiple medications, polypharmacy is a particular risk for older adults because of age-related changes in the metabolism, clearance and delivery of many medications. This heightened risk is also increased when multiple medications are used at one time and with specific high-risk medications.

Several lists of inappropriate and potentially inappropriate medications in the elderly exist and should be made easily available to prison health care clinicians. Medications with anticholinergic properties, for example, should be avoided in older adults as these drugs can result in side-effects that include falls, delirium (acute confusion) and urinary retention *(12)*. Anticholinergic properties are found in many classes of medication including antihistamines, some benzodiazepines and some antibiotics *(13)*. In addition to being aware of important medications to avoid in the elderly, it is also critical that prison health care clinicians use caution when adding new medications to the regimens of older adults. Older prisoners should have their entire medication list reviewed regularly to assess the need for continuation of each medication while considering the possibility of drug–drug interactions with other concurrent medications. In keeping with the geriatric care model, a team approach may help to ensure proper management of medications in older prisoners.

Geriatric syndromes

Geriatric syndromes are conditions that have multifactoral etiologies, significant morbidity and adverse effects on quality of life and are more common in older adults *(14)*. The common geriatric syndromes considered here include falls, dementia, incontinence, sensory impairment and symptom burden. Health care providers who specialize in older adults focus as much time on assessing and addressing geriatric syndromes as on the diagnosis and management of chronic medical illnesses. In prison, geriatric syndromes are similarly important, affecting many older prisoners and increasing their risk for adverse health events.

Falls

Studies have found that approximately 30% of people aged over 65 years fall each year, a rate that increases with advancing age *(12)*. Of those who fall, approximately 20–30% suffer injuries with significant consequences for their independence and functioning, and even their risk of death *(15)*. Older prisoners are at heightened risk of falls if they are housed in institutions with poor lighting, uneven flooring or poorly marked stairs or if they are required to perform activities beyond their functional ability, such as standing for long periods or climbing onto a top bunk. Other factors contributing to the increased risk of falls in prison could include allocation to accommodation that necessitates the use of many stairs, crowded areas where others are moving quickly and may jostle the older prisoner, or the use of ankle and/or wrist shackles which can affect normal gait by decreasing arm swing and can restrict the ability to compensate for imbalance with a wide-spaced gait. In addition, vitamin D deficiency can lead to abnormal gait, muscle weakness and osteoporosis, increasing the risk of injury from falls. This can be a particular problem for prisoners with less outdoor access. One study of older women prisoners in the United States found that 51% experienced a fall over a one-year period in custody *(16)*. Effective interventions to reduce falls in the community include exercise programmes to promote balance and muscle-strengthening, environmental modifications such as grab bars and reviews of medication to avoid polypharmacy.

Dementia

Dementia is defined as a decline in two or more areas of cognitive functioning severe enough to cause functional decline. The prevalence of dementia doubles every five years from the ages of 60 years to 80 years, when it affects one third to one half of the population *(12)*. The dementia risk is worse for people that are also at risk of incarceration, including those with a history of post-traumatic stress disorder, low educational attainment, traumatic brain injury or substance abuse. Some of these factors are also associated with the earlier onset of dementia, such that prisoners could be at risk for cognitive decline at young ages. Cognitive impairment can be harder to detect in prison, given that many of the daily tasks necessary for independence in the community are frequently not required of prisoners, such as doing their laundry, cooking and balancing their finances. If it goes undetected, however, cognitive impairment could have considerable consequences in prison, including victimization, unwarranted disciplinary measures or failure to meet complex release instructions. For these reasons, many recommend cognitive screening upon intake for all older prisoners, and annually for those ageing in prison *(4)*.

Incontinence

The prevalence of incontinence increases with age and is often under-reported and under-diagnosed *(12)*. One study of United States prisoners found that 40% of inmates aged 60 years and older reported some incontinence *(17)*. Many types of incontinence can improve with treatment, yet a study of Californian prisons found that incontinence was often not treated by medical staff. Incontinence supplies were also found to be lacking *(18)*. For older prisoners, untreated incontinence could lead to social isolation, depression, decreased functional status, ridicule or physical victimization. Prison health care clinicians should be trained to diagnose incontinence, investigate its causes and provide treatment, including incontinence supplies.

Sensory impairment

Impairments to hearing and vision, both common with advancing age, are associated with problems with balance, social isolation and disability *(12)*. In prisons, these risks may be magnified as older prisoners with visual impairment struggle to negotiate unseen obstacles, or those with hearing impairment are unable to hear orders or are misconstrued as disrespectful of fellow inmates whose comments they have not heard *(16)*. For prisoners with active legal cases, unaddressed sensory impairment could reduce their capacity to participate effectively in their own defence. It is, therefore, critically important that sensory impairments are identified and that adaptations are made available. Lawyers, correctional and law enforcement officers and other front-line criminal justice professionals should also be trained to identify prisoners with potential impairments for referral to medical staff.

Symptom burden

A high prevalence of distressing symptoms in older prisoners can confound approaches to effective medical treatment. Among older prisoners, emotional symptoms related to social isolation and long-term incarceration (or institutionalization) are common and can lead to

adverse mental and physical health outcomes *(7)*. Physical symptoms are also prevalent in ageing populations. Persistent pain, for example, is among the most common presenting complaints in older adults who visit hospital emergency departments. In prisons, pain treatment is often complicated by co-occurring substance use disorders, clinicians' concerns about diversion of medicaments, prison policies limiting controlled substances and other factors *(13)*. Yet without adequate treatment, distressing symptoms can lead to a lower quality of life, new or worsened functional impairment, increased use of the health care services and a rapid decline in health for older adults. Additional symptoms that are often under-recognized and/or undertreated in older adults include shortness of breath, constipation and dizziness *(12)*. Thus, a full assessment of symptoms and targeted planning of treatment should be considered critical components of all older prisoners' medical care.

Functional status and environmental mismatch

Geriatric syndromes can greatly affect functional status, defined as a person's degree of independence in the activities of daily living (ADL – bathing, dressing, eating, toileting and transferring between chair and bed or toilet). Dependence in these and instrumental ADL (IADL – typically including managing medications and finances, transportation or shopping) increases with age and is associated with more use of the health care services and higher health care costs, a further decline and greater morbidity *(19)*. Although evidence describing the prevalence of functional impairment in prisons is limited, one study in a United States jail found that 20% of men aged over 50 years were dependent in some IADLs and 11% required assistance in some ADLs *(17)*. Such studies may, however, significantly underestimate the prevalence of functional impairment in older prisoners because incarceration includes many unique physical activities not accounted for in traditional ADL and IADL assessments. Another study sought to identify the unique nature of functional ability in prison by identifying prison-specific ADL. These included dropping to the floor for alarms, standing for head count, getting to the dining hall for meals, hearing orders from staff, and climbing on and off one's bunk *(16)*. The unique daily activities required for independence in prison differ by institution and housing unit. The study found that many older prisoners who would be independent in the community were functionally impaired in prison after accounting for the unique physical tasks required for independence in prison. As a result, experts recommend that a list should be drawn up of the physical activities necessary for independence in each housing unit or institution. These lists should be used to house and stratify for risk older prisoners in need of additional supervision and assistance, and an annual screening policy should be instituted to assess functional impairment in individuals growing old in prison *(4)*.

Mental health issues

Older prisoners are likely to suffer from mental illness at higher rates than their age-matched counterparts in the community *(20–22)*. One study in the United Kingdom found that as many as one in three older prisoners suffered from depression. The same study also found that psychiatric conditions were among the most under-detected and under-treated illnesses in older prisoners *(22)*. Mental health issues in older prisoners may be particularly hard to detect or identify. As behavioural health risk factors associated with incarceration (such as traumatic brain injury and substance abuse) accumulate over time, challenges to effective diagnosis and the prescribing of medications are greater. Worsening physical health may also have an impact on mental health. Functional impairment, for example, can lead to decreased participation in social, vocational or work programmes which may, in turn, lead to social isolation, withdrawal and depression *(23)*.

Older adults may also experience psychological trauma directly related to their incarceration. A sample of elderly first-timers in United Kingdom prisons were frequently anxious, depressed or psychologically traumatized by incarceration *(24)*. After a long period of imprisonment, older prisoners may also have anxieties related to release *(7)*. One study also showed that long-term prisoners experience a winnowing of their outside social support network, with fewer visits and less contact with outside family or friends over time *(23)*. Other older prisoners may develop anxiety at the onset of new medical conditions or a fear of dying while in prison *(7)*. Older prisoners should, therefore, be re-evaluated by a mental health provider with knowledge of ageing-related mental health issues as factors related to their physical health, criminal justice disposition or changes in their outside social support structures.

End of life care and death

Although many older prisoners will eventually be released, death in custody occurs in nearly any prison system. Some legal systems provide for the early (or medical or compassionate) release of terminally or seriously ill prisoners *(25)*, although uniform standards for such programmes are not in place in every system. Where early release is provided for, prison health care professionals should be trained in the relevant legal and medical guidelines and, where appropriate, should be capable of assisting eligible prisoners to navigate the process. In the United States, in states with early release laws, the lack of a clearly defined prisoner advocate or role for the prison

health care provider has sometimes served as a barrier to the release of medically eligible prisoners *(25)*. Prison administrations where early release laws exist should, therefore, consider implementing prisoner advocacy protocols that ensure prisoners have full access to the law regardless of their medical disposition.

In the many countries and cases where early release does not apply, hospice and/or palliative care may provide the best standard of care for seriously ill or dying prisoners. Hospice care is focused on people who are dying (usually in the last six months of life), while palliative care is focused on providing guidance and symptom control for all seriously ill individuals, regardless of prognosis. In the community, both care models have demonstrated improvements in the quality of patients' remaining lives while reducing health care costs *(26)*. At present, however, the most effective means of providing end-of-life medical care in prisons is not well understood. In the United States, approximately 70 prisons have hospice units modelled closely on community-based hospice programmes. These hospice units have been shown to produce cost-effective, high-quality end-of-life care. Issues remain, however. The appropriate use of volunteers in prison hospice units, patient-clinician trust, and the support mechanisms available to prisoners making decisions about life-prolonging treatment, for example, have been identified as areas where more research is needed. In the United Kingdom, palliative care in prison provided by community providers is the commonly used care model for seriously ill prisoners *(27)*. Yet, again, more research is needed to gain a better understanding of how prisoners experience these services and how they can be further optimized *(2)*

Ageing and re-entry into the community

Studies have shown that advancing age is one of the few reliable predictors of decreasing recidivism *(7)*. As a result, there have been many calls in the United States for the early release of nonviolent geriatric prisoners to alleviate overcrowded prisons and reduce correctional costs. Others have proposed wider use of alternatives to incarceration for nonviolent older prisoners, such as house arrest or electronic monitoring. If momentum builds behind such policies, and as ageing societies continue to process growing numbers of older adults through prison, effective preparation for the re-entry of older adults to the community will be increasingly important.

On release, geriatric ex-prisoners may face unique challenges, with potential consequences for community-based health care and social services systems. Older adults are particularly vulnerable to difficulties in finding employment and suitable housing. After long periods of incarceration, many may also have difficulty navigating the bureaucratic processes required to re-enrol in social benefits programmes *(5,28)*. Such social challenges both hinder successful reintegration and pose additional health risks. Inadequate planning for medical care and/or social support prior to release may also place older adults at risk of interruptions in treatment and failure to continue with needed medications *(5,13)*. Such system-level deficiencies can result in avoidable use of the emergency services, hospitalization and even death. Steps can, however, be taken before release to smoothe the transition back into the community for older adults, such as training in independent living skills (cooking, shopping, banking), a health care transition plan that includes health care and access to medication, a summary of medical problems sent directly to the post-release physician, links to age-specific community resources and social support, and education about self-care and disease management. Although the current evidence base is limited, intensive case management and peer mentoring programmes for older adults may also improve outcomes in the important period following release.

References

1. Walmsley R. *World prison population list*. London, International Centre for Prison Studies (multiple editions).
2. Williams B et al. Addressing the aging crisis in U.S. criminal justice healthcare. *Journal of the American Geriatrics Society*, 2012, 60(6):1150–1156.
3. *At America's expense: the mass incarceration of the elderly*. New York, NY, American Civil Liberties Union, 2012.
4. Williams B et al. Aging in correctional custody: setting a policy agenda for older prisoner health. *American Journal of Public Health*, 2012, 102(8):1475–1481.
5. Williams BA et al. Coming home: health status and homelessness risk of older pre-release prisoners. *Journal of General Internal Medicine*, 2010, 25(10):1038–1044.
6. Besdine R et al. Caring for older Americans: the future of geriatric medicine. *Journal of the American Geriatrics Society*, 2005, 53(Suppl 6):S245–256.
7. Aday R. *Aging prisoners: crisis in American corrections*. Westport, CT, Praeger, 2003.
8. Baillargeon J et al. The infectious disease profile of Texas prison inmates. *Preventive Medicine*, 2004, 28:607–612.
9. Guiding principles for the care of older adults with multimorbidity: an approach for clinicians. *Journal of the American Geriatrics Society*, 2012, 60(10):E1–E25.
10. Baillargeon J et al. The disease profile of Texas prison inmates. *Annals of Epidemiology*, 2000, 10(2):74–80.
11. Binswanger I, Krueger P, Steiner J. Prevalence of chronic medical conditions among jail and prison

inmates in the USA compared with the general population. *Journal of Epidemiology and Community Health*, 2009, 63(11):912–919.
12. Landefeld CS et al., eds. *Current geriatric diagnosis and treatment*. New York, NY, McGraw-Hill, 2004.
13. Greifinger R, ed. *Public health behind bars: from prisons to communities*. New York, NY, Springer Books, 2007.
14. Inouye SK et al. Geriatric syndromes: clinical, research, and policy implications of a core geriatric concept. *Journal of the American Geriatrics Society*, 2007, 55(5):780–791.
15. Todd C, Skelton D. *What are the main risk factors for falls among older people and what are the most effective interventions to prevent these falls?* Copenhagen, WHO Regional Office for Europe, 2004 (Health Evidence Network report) (http://www.euro.who.int/__data/assets/pdf_file/0018/74700/E82552.pdf, accessed 7 December 2013).
16. Williams B et al. Being old and doing time: functional impairment and adverse experiences of geriatric female prisoners. *Journal of the American Geriatrics Society*, 2006, 54:702–707.
17. Colsher PL et al. Health status of older male prisoners: a comprehensive survey. *American Journal of Public Health*, 1992, 82:881–884.
18. Hill T et al. *Aging inmates: challenges for healthcare and custody*. San Francisco, CA, The California Department of Corrections and Rehabilitation, 2006.
19. Covinsky KE et al. Measuring prognosis and case-mix in hospitalized elders: the importance of functional status. J*ournal of General Internal Medicine*, 1997, 12:203–208.
20. Loeb SJ, Abudagga A. Health-related research on older inmates: an integrative review. *Research in Nursing & Health*, 2006, 29(6):556–565.
21. De Smet S et al. What is currently known about older mentally ill offenders in forensic contexts: results from a literature review. *International Journal of Social Sciences and Humanities Studies*, 2010, 2(1):127–135.
22. Fazel S et al. Unmet treatment needs of older prisoners: a primary care survey. *Age Ageing*, 2004, 33(4):396–398.
23. Kratcoski P, Babb S. Adjustment of older inmates: an analysis by institutional structure and gender. *Journal of Contemporary Criminal Justice*, 1990, 6:264–281.
24. Crawley E, Sparks R. Is there life after imprisonment? How elderly men talk about imprisonment and release. *Criminology and Criminal Justice*, 2006, 6(1):63–82.
25. Williams B et al. Balancing punishment and compassion for seriously ill prisoners. *Annals of Internal Medicine*, 2011, 155(2):122–127.
26. Morrison RS et al. Cost savings associated with US hospital palliative care programs. *Archives of Internal Medicine*, 2008, 168(16):1783–1790.
27. Stone K, Papadopoulos I, Kelly D. Establishing hospice care for prison populations: an integrative review assessing the UK and USA perspective. *Palliative Medicine*, 2011, 26(8):969–978.
28. Mallik-Kane K, Visher CA. *Health and prisoner reentry: how physical, mental, and substance abuse conditions shape the process of reintegration*. Washington DC, Urban Institute, 2008.

Further reading

Anno BJ et al. *Correctional health care: addressing the needs of elderly, chronically ill, and terminally ill inmates*. Middletown, CT, Criminal Justice Institute, 2004.

Collins DR, Bird R. The penitentiary visit – a new role for geriatricians? *Age Ageing*, 2007, 36(1):11–13.

Greifinger RB. Disabled prisoners and "reasonable accommodation". *Journal of Criminal Justice Ethics*, 2006, 2:53–55.

Old behind bars: the aging prison population in the United States. New York, NY, Human Rights Watch, 2012.

Kerbs JJ, Jolley JM. A commentary on age segregation for older prisoners: philosophical and pragmatic considerations for correctional systems. *Criminal Justice Review*, 2009, 34:119–139.

Maschi T et al. Forget me not: dementia in prison. *The Gerontologist*, 2012, 52(4):441–451.

Prison health management