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Ageing prisoners: An introduction to geriatric health-care challenges in correctional facilities

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Abstract
The rise in the number of older prisoners in many nations has been described as a correctional "ageing crisis" which poses an urgent financial, medical and programmatic challenge for correctional health-care systems. In 2016, the

International Committee of the Red Cross hosted a conference entitled "Ageing and Imprisonment: Identifying the Needs of Older Prisoners" to discuss the institutional, legal and health-care needs of incarcerated older adults, and the approaches some correctional facilities have taken to meeting these needs. This article describes some of the challenges facing correctional systems tasked with providing health care to older adults, highlights some strategies to improve their medical care, and identifies areas in need of reform. It draws principally on research and examples from the United States to offer insights and recommendations that may be considered in other systems as well.

Keywords: ageing, incarceration, geriatrics, palliative care, hospice, compassionate release.

The ageing prison population

The worldwide population is ageing dramatically.[1] This phenomenon is also reflected in correctional populations throughout the world. For example, in the United Kingdom the overall prison population grew by 51% between 2000 and 2009, while the population over the age of 60 grew by 216%.[2] In Japan, the number of prisoners over the age of 60 increased by 160% between 2000 and 2006.[3] Such a rapid rise in the number of older prisoners has been described as a correctional "ageing crisis" which poses an urgent challenge for correctional health-care systems – especially those poorly equipped to meet the complex needs of older adults.[4]

While these ageing trends are seen in many criminal justice systems throughout the world, they are most profound in the United States. From 1990 to 2009, the total US prison population doubled while the number of incarcerated individuals aged 55 or older increased by 300%,[5] and the median age of state prisoners increased from 30 to 36 years.[6] This demographic shift has continued in the United States even as the growth of the general prison population has decreased; between 2009 and 2013, the population of US federal prisoners aged

1 Wan He, Daniel Goodkind and Paul Kowal, *An Aging World: 2015*, US Census Bureau, International Population Reports, P95/16-1, US Government Publishing Office, Washington, DC, 2016.
2 United Nations (UN) Office on Drugs and Crime, *Handbook on Prisoners with Special Needs*, New York, 2009, available at: www.unodc.org/pdf/criminal_justice/Handbook_on_Prisoners_with_Special_Needs.pdf (all internet references were accessed in May 2017).
3 *Ibid.*
4 Brie A. Williams, James S. Goodwin, Jacques Baillargeon, Cyrus Ahalt and Louise C. Walter, "Addressing the Aging Crisis in U.S. Criminal Justice Health Care", *Journal of the American Geriatric Society*, Vol. 60, No. 6, 2012.
5 Bureau of Justice Statistics (BJS), *Prisoners Series: 1990–2010*, US Department of Justice (DoJ), Office of Justice Programs (OJP), Washington, DC, available at: http://bjs.ojp.usdoj.gov/index.cfm?ty=pbse&sid=40.
6 BJS, *Aging of the State Prison Population, 1993–2013*, DoJ, OJP, Washington, DC, May 2016, available at: www.bjs.gov/content/pub/pdf/aspp9313_Sum.pdf.

49 or younger decreased by 1%, whereas the number of prisoners aged 50 or older increased by 25%.[7] Older prisoners now represent approximately 10% of the US state prison population.[8]

This article describes some of the challenges facing correctional systems tasked with providing health care to older adults, highlights some innovative approaches being taken to optimize the care of incarcerated older adults, and draws attention to some areas in need of reform. Drawing on evidence developed primarily in the United States and to a lesser extent Europe, it draws conclusions and makes observations that are widely applicable to correctional facilities worldwide.

Geriatric health-care in the correctional setting

While health-care professionals outside of the criminal justice system typically use the age of 65 to define which individuals are "older adults" or "geriatric", the demarcation between "young" and "old" in correctional settings is less well defined. This is because many criminal justice-involved individuals experience multiple chronic physical and/or mental health conditions and physical disabilities at relatively young ages.[9] They are also more likely to have experienced profound stress and/or trauma over their lifetime, to have a history of substance use disorder and/or homelessness, and to have had limited access to quality health-care and education.[10] The high degree of early-onset medical and social complexity found in this population is often referred to as "accelerated ageing".[11] To account for accelerated ageing, many jurisdictions consider individuals in their 50s to be "older prisoners".[12]

Most correctional facilities were designed to restrict the liberty of young people, not to provide optimal care for the aged. As a result, correctional facilities are often ill-equipped to meet the needs of older adults with complex medical conditions and physical disabilities. These facilities often require residents to contend with challenging environmental features such as poor lighting, steep staircases, dimly lit walkways, high bunk beds and low toilets. The rise in the number of incarcerated older adults has led some correctional facilities to introduce environmental modifications for residents with physical disabilities and

7 Office of the Inspector General, *The Impact of an Aging Inmate Population on the Federal Bureau of Prisons*, DoJ, Washington, DC, February 2016, available at: https://oig.justice.gov/reports/2015/e1505.pdf.
8 BJS, above note 6; BJS, *Prisoners in 2015*, DoJ, OJP, Washington, DC, December 2016, available at: www.bjs.gov/content/pub/pdf/p15_sum.pdf.
9 B. A. Williams *et al.*, above note 4.
10 Ron H. Aday, *Aging Prisoners: Crisis in American Corrections*, Praeger, Westport, CT, 2003.
11 *Ibid.*
12 Brie A. Williams, Marc F. Stern, Jeff Mellow, Meredith Safer and Robert B. Greifinger, "Aging in Correctional Custody: Setting a Policy Agenda for Older Prisoner Health Care", *American Journal of Public Health*, Vo1. 102, No. 8, 2012.

system-wide enhancements to manage their complex health needs. Together these factors likely contribute to high correctional costs.[13]

Yet a precise accounting of the health-care costs generated by incarcerated older adults is frequently hampered by a lack of data transparency on the part of correctional systems, and by differences in how systems that do share their cost data define and report on expenses.[14,15] Best-guess estimates suggest that the average incarceration-related costs for older adults in the United States are up to nine times higher than for younger adults.[16] In 2013, the US Office of the Inspector General found that the Federal Bureau of Prisons spent $881 million to incarcerate individuals aged 50 or older.[17] Furthermore, state prisons that house the highest proportion of older adults generate medication costs that are fourteen times higher than the prisons with the lowest proportion of adults aged 50 and older.[18]

Incarcerated older adults also experience unique criminal justice outcomes. Compared to their younger counterparts, older adults tend to incur fewer disciplinary actions while incarcerated and have lower recidivism rates once released. For example, in the US Federal Bureau of Prisons statistics, individuals aged 50 or older account for 19% of the population but generate only 10% of misconduct incidents.[19] Over the same period, the three-year recidivism rate for all individuals leaving US federal prisons was 41%, while it was 15% for persons aged 50 or older.[20]

In many nations, incarcerated individuals are entitled by law to an equivalent standard of health care that is received by free individuals in their community. For example, the International Covenant on Economic, Social and Cultural Rights affirms "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health".[21] The United Nations Basic Principles for the Treatment of Prisoners establishes that "[p]risoners shall have access to the health services available in the country without discrimination on

13 Tina Maschi, Deborah Viola and Fei Sun, "The High Cost of the International Aging Prisoner Crisis: Well-Being as the Common Denominator for Action", *The Gerontologist*, Vol. 53, No. 4, 2013; Cyrus Ahalt, Robert L. Trestmann, Josiah D. Rich, Robert B. Greifinger and Brie A. Williams, "Paying the Price: The Pressing Need for Quality, Cost and Outcomes Data to Improve Correctional Healthcare for Older Prisoners", *Journal of the American Geriatrics Society*, Vol. 61, No. 11, 2013.

14 *Ibid.*

15 Cyrus Ahalt, Ingrid A. Binswanger, Michael Steinman, Jacqueline Tulsky and Brie A. Williams, "Confined to Ignorance: The Absence of Prisoner Information from Nationally Representative Health Data Sets", *Journal of General Internal Medicine*, Vol. 27, No. 2, 2012.

16 *Ibid.*

17 Office of the Inspector General, above note 7.

18 *Ibid.*

19 *Ibid.*

20 *Ibid.*

21 Andrew Coyle, "Standards in Prison Health: The Prisoner as a Patient", *Prisons and Health*, WHO, 2014, available at: www.euro.who.int/__data/assets/pdf_file/0008/249191/Prisons-and-Health,-2-Standards-in-prison-health-the-prisoner-as-a-patient.pdf?ua=1; citing, e.g., European Court of Human Rights (ECtHR), *Mouisel v. France*, Application No. 67263/01, 14 November 2002; ECtHR, *Hénaf v. France*, Application No. 65436/01, 27 November 2003; ECtHR, *McGlinchey and Others v. United Kingdom*, Judgment, Application No. 50390/99, 29 April 2003.

the grounds of their legal situation". The European Court of Human Rights has affirmed the right to standard of care for prisoners through case law.[22] This is also the case in the United States, where in 1976, the Supreme Court guaranteed prisoners' rights to "community-standard" health care.[23] This concept, commonly referred to in European nations as "equivalence of care", is often used to define the minimal health-care standards required of correctional facilities.

While ethicists suggest that equivalence of care is difficult (and sometimes impossible) to achieve in a setting where patients have compromised autonomy, competing priorities (for example, legal concerns or safety issues) and considerable social and health-care needs that strain the resources available to treat them,[24] it is a useful concept for developing a basic expected standard of care. When the equivalence of care test is applied to the care of older adults in the correctional setting, it is important to use the field of geriatrics as the community benchmark for care. Geriatrics is the field of medicine that aims to optimize the health, function, independence and quality of life of older patients through the lens of bio-psycho-social assessment and treatment.[25] The field of geriatrics takes a patient-centred approach to prioritizing and assessing the risks and benefits of different (and at times competing) interventions offered to patients with multiple medical conditions and disability through a comprehensive assessment of their personal goals of care. To incorporate a geriatric health-care model in correctional settings requires an understanding of the clinical conditions prioritized in geriatric care.

Medical conditions prioritized in geriatric care

Functional ability

In geriatrics, "functional ability" refers to an individual's capacity to attend to their own "activities of daily living" (ADLs), such as dressing, toileting and feeding oneself, and to common daily tasks called "instrumental activities of daily living" (IADLs), such as shopping and managing one's finances and medications.[26] A person's functional ability is a result of the interaction between their cognitive and physical abilities and the environment in which they live.

Assessing and optimizing functional ability in older adults is critical to maximizing their health, safety and well-being. In the community, research has consistently shown that a decline in an older adult's ability to independently perform their ADLs and IADLs is a harbinger of worsening health, rising health-

22 A. Coyle, above note 21.
23 US Supreme Court, *Estelle v. Gamble*, Case No. 75-929, Judgment, 30 November 1976.
24 *Ibid.*
25 Brie A. Williams, Anna Chang, Cyrus Ahalt, Helen Chen, Rebecca Conant, C. Seth Landefeld, Christine Ritchie and Michi Yukawa, *Current Diagnosis and Treatment: Geriatrics*, 2nd ed., McGraw-Hill Professional, New York, 2014.
26 *Ibid.*, p. 4.

care costs and mortality.[27] As a result, physicians and other health-care professionals who practice geriatric medicine focus primarily on assessing their patients' capacity to perform these tasks, an assessment which often results in recommendations for how to modify the living environment in order to maximize their independence. As an example, simple tools such as specialized button hooks and Velcro shoes can be used to overcome the difficulty experienced with severe arthritis.[28]

Assessing functional ability in the correctional setting can be complicated. In the United States, for example, most – if not all – incarcerated individuals do not manage their own grocery shopping, cooking or finances. This makes it difficult to assess a patient's capacity to perform these daily activities. In contrast, other tasks may commonly be required of incarcerated individuals, such as standing for a long time for head count or climbing onto an assigned top bunk.[29] Unique daily activities such as these vary between facilities and even between housing units in the same facility. For this reason it is important to identify the physical tasks required to maintain independence ("activities of daily living for prison") in each housing unit and assign individuals according to their ability to perform these required tasks.[30]

Multimorbidity and medical complexity

Incarcerated older adults shoulder a disproportionate burden of chronic medical conditions.[31] One study that assessed the health of men aged 60 or older in prisons in England and Wales found that 85% reported at least one major chronic illness, a rate higher than that reported by their age-matched community counterparts and far higher than reported in younger prisoners.[32] In Switzerland, incarcerated older adults have been found to seek medical attention more frequently – and for more complicated chronic conditions (such as diabetes and heart failure) – than younger prisoners.[33] In addition, common chronic illnesses, such as diabetes, advanced liver disease and coronary artery disease, can make the management of co-occurring conditions such as paraplegia more difficult.[34]

27 Kenneth E. Covinsky, Amy C. Justice, Gary E. Rosenthal, Robert M. Palmer and C. Seth Landefeld, "Measuring Prognosis and Case Mix in Hospitalized Elders: The Importance of Functional Status", *Journal of General Internal Medicine*, Vol. 12, No. 4, 1997.

28 Brie A. Williams, Karla Lindquist, Rebecca L. Sudore, Heidi M. Strupp, Donna J. Willmott and Louise C. Walter, "Being Old and Doing Time: Functional Impairment and Adverse Experiences of Geriatric Female Prisoners", *Journal of the American Geriatric Society*, Vol. 54, No. 4, 2006.

29 *Ibid.*

30 *Ibid.*

31 Susan J. Loeb and Azza AbuDagga, "Health-Related Research on Older Inmates: An Integrative Review", *Research in Nursing and Health*, Vol. 29, No. 6, 2006; Jacques Baillargeon, Sandra A. Black, John Pulvino and Kim Dunn, "The Disease Profile of Texas Prison Inmates", *Annals of Epidemiology*, Vol. 10, No. 2, 2000.

32 Seena Fazel, Tony Hope, Ian O'Donnell, Mary Piper and Robin Jacoby, "Health of Elderly Male Prisoners: Worse than the General Population, Worse than Younger Prisoners", *Age and Ageing*, Vol. 30, No. 5, 2001.

33 Tenzin Wangmo, Sirin Hauri, Andrea H. Meyer and Bernice S. Elger, "Patterns of Older and Younger Prisoners' Primary Healthcare Utilization in Switzerland", *International Journal of Prisoner Health*, Vol. 12, No. 3, 2016.

34 Ingrid A. Binswanger, Patrick M. Krueger and John F. Steiner, "Prevalence of Chronic Medical Conditions Among Jail and Prison Inmates in the USA Compared with the General Population", *Journal of Epidemiology and Community Health*, Vol. 63, No. 11, 2009.

Incarcerated older adults are also particularly vulnerable to infectious disease. One study in Texas found that rates of tuberculosis, hepatitis B and C, resistant staphylococcal infections (such as methicillin-resistant Staphylococcus aureus, or MRSA), syphilis and pneumonia were disproportionately high in incarcerated older populations compared to younger prisoners and to community-dwelling older adults.[35]

Geriatric Syndromes in the Correctional Setting

In addition to chronic medical conditions, older adults frequently experience other "geriatric syndromes" that can have a negative impact on their physical function and quality of life. Examples include frequent falls, cognitive impairment and dementia, incontinence, sensory impairment and polypharmacy.[36] The presence of geriatric syndromes such as these contributes to an older adult's overall frailty and poor health outcomes.[37] Older adults warrant a full geriatric evaluation upon intake at correctional facilities to identify whether any geriatric syndromes are present and, if so, to make recommendations for how to address these conditions. Persons ageing in prisons should receive periodic reassessment (i.e., annually) to identify and address new geriatric syndromes as they arise.

Falls

Falls are a leading cause of serious injury and death among older adults.[38] Loss of muscle mass, pain due to arthritis, impaired balance due to loss of nerve sensation, and hearing or visual impairment are examples of the many drivers of high fall risk among older adults.[39] In the correctional setting, many factors can heighten the risk of falls, such as dimly lit or crowded walkways. Furthermore, institutionalized older adults who spend the majority of their time indoors are at heightened risk for vitamin D deficiency due to insufficient sun exposure.[40] Vitamin D is critical for both muscle and bone health, and vitamin D deficiency puts older people at risk of falls.[41] Any additional obstacles to normal ambulation – such as being required to walk with ankle or wrist restraints – are also likely to enhance the risk of falling. Moreover, those who have few

35 Jacques Baillargeon, Sandra A. Black, Charles T. Leach, Hal Jenson, John Pulvino, Patrick Bradshaw and Owen Murray, "The Infectious Disease Profile of Texas Prison Inmates", *Preventive Medicine*, Vol. 38, No. 5, 2004.

36 C. Seth Landefeld, Robert M. Palmer, Mary Anne Johnson, C. Bree Johnston and William L. Lyons, *Current Geriatric Diagnosis and Treatment*, McGraw-Hill, New York, 2004.

37 Sharon K. Inouye, Stephanie Studenski, Mary Elizabeth Tinetti and George A. Kuchel, "Geriatric Syndromes: Clinical, Research and Policy Implications of a Core Geriatric Concept", *Journal of the American Geriatrics Society*, Vol. 55, No. 5, 2007.

38 C. S. Landefeld *et al.*, above note 36.

39 Mary E. Tinetti and Chandrika Kumar, "The Patient Who Falls: 'It's Always a Trade-Off'", *Journal of the American Medical Association*, Vol. 303, No. 3, 2010.

40 Peter D. Papapetrou, Maria Triantafyllopoulou and A. Korakovouni, "Severe Vitamin D Deficiency in the Institutionalized Elderly", *Journal of Endocrinological Investigation*, Vol. 31, No. 9, 2008.

41 Michael F. Holick, "Vitamin D Deficiency", *New England Journal of Medicine*, Vol. 357, No. 3, 2007.

opportunities to exercise may experience physical deconditioning, a strong risk factor for serious fall-related injury.[42]

Cognitive Impairment

Normal age-related cognitive changes can include slower reaction times and slower performance on timed tasks.[43] In contrast, the diagnosis of *abnormal* cognitive changes (dementia) requires both memory impairment and impairment in at least one additional cognitive domain, such as judgement or executive function, plus some degree of new functional impairment (newly impaired ability to perform ADLs or IADLs).[44]

The World Health Organization (WHO) estimates that there are 47.5 million people worldwide living with dementia, and that this number will increase to 75.6 million by the year 2030.[45] The incidence of dementia increases with advancing age; while the prevalence of dementia amongst people aged 70–79 is 5%, this number jumps to 37% for people over 90.[46] Many of the risk factors for dementia – such as poor educational attainment – are common in correctional populations.[47] Although there exists little research in this area,[48] it has been estimated that the prevalence of cognitive impairment in incarcerated older adults is high, reaching as high as 19% to 30% among incarcerated adults aged 55 or older.[49] One study found that dementia was listed as a diagnosis in 40% of older adults in one state prison system in the United States.[50]

While the regimented daily schedule in correctional facilities may make it difficult to detect signs of cognitive impairment and dementia (such as getting lost, misplacing belongings and mismanaging money), early diagnosis is of critical importance in the correctional setting. Cognitive changes, personality changes that often accompany dementia, and "dementia-related behaviours" (such as wandering, fighting and poor impulse control) may put individuals at heightened risk for unwarranted disciplinary action, victimization or failure to comply with parole instructions following release. One important resource for detecting cognitive impairment in its early stages is to educate those who spend the most amount of time with individuals in prison – such as correctional officers – to recognize early warning signs. One study found that correctional officers with no

42 Tahir Masud and Robert O. Morris, "Epidemiology of Falls", *Age and Ageing*, Vol. 30, 2001.
43 Caroline N. Harada, Marissa Natelson Love and Kristen Triebel, "Normal Cognitive Aging", *Clinics in Geriatric Medicine*, Vol. 29, No. 4, 2013.
44 B. A. Williams *et al.*, above note 25, pp. 123–133.
45 WHO, *The Epidemiology and Impact of Dementia*, Geneva, 2015, available at: www.who.int/mental_health/neurology/dementia/dementia_thematicbrief_epidemiology.pdf.
46 B. Brent Simmons, Brett Hartmann and Daniel DeJoseph, "Evaluation of Suspected Dementia", *American Family Physician*, Vol. 15, No. 84, 2011.
47 *Ibid.*
48 B. A. Williams *et al.*, above note 4.
49 R. H. Aday, above note 10.
50 Brie A. Williams, Jacques Baillargeon, Karla Lindquist, Louise C. Walter, Kenneth E. Covinsky, Heather E. Whitson and Michael A. Steinman, "Medication Prescribing Practices for Older Prisoners in the Texas Prison System", *American Journal of Public Health*, Vol. 100, No. 4, 2010.

special training suspected the presence of cognitive impairment in five times as many individuals as clinical staff.[51]

Urinary incontinence

Although urinary incontinence is common among older adults, it is not a normal part of ageing and it always warrants a thorough medical evaluation.[52] In the community, incontinence is often underreported and underdiagnosed.[53] Studies show that patients rarely bring it up to their health-care providers without prompting.[54] Indeed, in one survey of correctional health-care directors, respondents reported that they were 30% more likely to ask their patients about asthma than incontinence during a physical exam.[55] In the correctional setting, malodorous clothing due to incontinence could put older adults at heightened risk of victimization or intimidation. It is therefore critical for correctional health-care providers to ask all older adults about incontinence, and for prisons to stock appropriate incontinence hygiene supplies and allow older adults with incontinence to change clothes as often as needed.[56]

Sensory impairment

At least one third of individuals aged 60 or older and more than 80% of individuals above age 85 have some degree of hearing impairment, while approximately one in three individuals over age 80 are visually impaired.[57] Hearing and vision impairment may present unique challenges for incarcerated individuals, such as interfering with the ability to respond to correctional officers' orders or to fully participate in a court hearing.[58] Sensory impairments also heighten the risk of injurious falls and can lead to distressing social isolation.[59] Incarcerated older adults should receive screening for hearing loss, as hearing aids can improve

51 Brie A. Williams, Karla Lindquist, Terry Hill, Jacques Baillargeon, Jeff Mellow, Robert Greifinger and Louise C. Walter, "Caregiving Behind Bars: Correctional Officer Reports of Disability in Geriatric Prisoners", *Journal of the American Geriatric Society*, Vol. 57, No. 7, 2009.

52 B. A. Williams *et al.*, above note 28.

53 Kathryn L. Burgio, Diane G. Ives, Julie L. Locher, Vincent C. Arena and Lewis H. Kuller, "Treatment Seeking for Urinary Incontinence in Adults", *Journal of the American Geriatrics Society*, Vol. 42, No. 2, 1994.

54 B. A. Williams *et al.*, above note 4.

55 Rebecca Reviere and Vernetta D. Young, "Aging Behind Bars: Health Care of Older Female Inmates", *Journal of Women & Aging*, Vol. 16, Nos 1–2, 2004.

56 B. A. Williams *et al.*, above note 28.

57 Anne D. Walling and Gretchen M. Dickson, "Hearing Loss in Older Adults", *American Family Physician*, Vol. 85, No. 12, 2012, available at: www.aafp.org/afp/2012/0615/p1150.html; Allen L. Pelletier, Ledy Rojas-Roldan and Janis Coffin, "Vision Loss in Older Adults", *American Family Physician*, Vol. 94, No. 3, 2016, available at: www.aafp.org/afp/2016/0801/p219.html.

58 Terry Hill, Brie A. Williams, Gail Cobe and Karla Lindquist, *Aging Inmates: Challenges for Healthcare and Custody*, Report, Lumetra, San Francisco, CA, 2006, available at: www.cphcs.ca.gov/docs/resources/AgingInmatesByLumetra0506.pdf.

59 *Ibid.*

social and emotional well-being.[60] Older adults should also receive annual vision testing and should be considered for hearing and vision testing after a fall, or if they become more withdrawn over time.[61]

Polypharmacy

"Polypharmacy" describes the simultaneous prescription of multiple medications, the use of any medication known to cause adverse events in older adults, and/or the use of a medication to treat the adverse effects of another medication.[62] Older adults are particularly vulnerable to medication interactions and adverse medication side effects, both common in polypharmacy, due to age-related changes in drug metabolism that affect both the delivery and clearance of medications from the body.[63] Polypharmacy also can exacerbate the adverse effects of other geriatric syndromes (such as falls, incontinence or cognitive impairment) and is frequently an overlooked contributor to older patients' physical complaints[64]. For these reasons, geriatrics experts pay special attention to polypharmacy and frequently engage in "deprescribing" – reviewing and reconciling medication lists at every clinical visit to eliminate unnecessary and low-yield medications or those with a poor side-effect profile for older adults.[65] Polypharmacy is also common in the correctional setting – in a study focused on one state prison system, patients over 65 years of age were taking an average of nine different types of medication.[66] These patients were more likely to receive medications deemed inappropriate for older patients than those in comparable studies of community-dwelling elders.[67]

Mental health disorders and isolation

Many incarcerated older adults face psychosocial challenges that can exacerbate physical disability. For example, approximately half of US prisoners have at least

60 Barbara E. Weinstein, Lynn W. Sirow and Sarah Moser, "Relating Hearing Aid Use to Social and Emotional Loneliness in Older Adults", *American Journal of Audiology*, Vol. 25, No. 1, 2016; Raffaella Boi, Luca Racca, Antonio Cavallero, Veronica Carpaneto, Matteo Racca Francesca Dall'Acqua, Michele Ricchetti, Alida Santelli and Patrizio Odetti, "Hearing Loss and Depressive Symptoms in Elderly Patients", *Geriatrics & Gerontology International*, Vol. 12, No. 3, 2012.

61 Brie A. Williams, Cyrus Ahalt and Louise Aronson, "Aging Correctional Populations", in Gerben Bruinsma and David Weisburd (eds), *Encyclopedia of Criminology and Criminal Justice*, Springer, New York, 2014.

62 Cynthia M. Williams, "Using Medications Appropriately in Older Adults", *American Family Physician*, Vol. 66, No. 10, 2002.

63 *Ibid.*

64 S. K. Inouye *et al.*, above note 37.

65 Ian A. Scott, Sarah N. Hilmer, Emily Reeve, Kathleen Potter, David Le Couteur, Deborah Rigby, Danijela Gnjidic, Christopher B. Del Mar, Elizabeth E. Roughead, Amy Page, Jesse Jansen and Jennifer H. Martin, "Reducing Inappropriate Polypharmacy: The Process of Deprescribing", *JAMA Internal Medicine*, Vol. 175, No. 5, 2015; Michael A. Steinman, "Polypharmacy – Time to Get Beyond Numbers", *JAMA Internal Medicine*, Vol. 176, No. 4, 2016.

66 B. A. Williams *et al.*, above note 50.

67 *Ibid.*

one mental health condition.[68] Estimates of the prevalence of serious mental illness in incarcerated older adults in the United States range from 10% to 40%.[69] Post-traumatic stress disorder is present in up to a third of incarcerated older individuals.[70] Older adults may also experience heightened anxiety related to their impending release to the community.[71] Others may feel distress at the prospect of dying while incarcerated.[72] For some, limitations in the ability to perform prison activities of daily living are associated with higher rates of depression and suicidal ideation.[73]

Mental health can be further affected by feelings of isolation in the correctional setting. Compared to incarcerated younger adults, older adults generally have fewer regular visitors and fewer connections within the prison to social networks and self-help groups.[74] This relative social isolation can lead to diminished functional capacity or may be exacerbated by it, putting older adults at a heightened risk for subsequent worsening loneliness and physical disability.[75]

The health of older women prisoners

Between 1980 and 2014, the number of incarcerated women in the United States increased by more than 700%.[76] In 2015, 7% of women prisoners in the state and federal prison systems were aged 55 or older.[77] In England and Wales, a growth in the population of women in correctional facilities is also outpacing the population of men: while the number of incarcerated men in these countries has been reduced by approximately 50% since 2004, the number of incarcerated women has doubled.[78] The number of incarcerated women is also growing at a faster rate than that of incarcerated men in Australia and New Zealand, and in

68 Doris J. James and Lauren E. Glaze, *Mental Health Problems of Prison and Jail Inmates*, Special Report, BJS, DoJ, Washington, DC, 2006.

69 B. A. Williams, C. Ahalt and L. Aronson, above note 71; Sabrina Haugebrook, Kristen M. Zgoba and Tina Maschi, "Trauma, Stress, Health, and Mental Health Issues among Ethnically Diverse Older Adult Prisoners", *Journal of Correctional Health Care*, Vol. 6, No. 3, 2010.

70 Jason D. Flatt, Brie A. Williams, Deborah Barnes, Joe Goldenson and Cyrus Ahalt, "Post-Traumatic Stress Disorder Symptoms and Associated Health and Social Vulnerabilities in Older Jail Inmates", *Aging & Mental Health*, Vol. 21, No. 10, 2017.

71 Elaine Crawley and Richard Sparks, "Is There Life After Imprisonment? How Elderly Men Talk About Imprisonment and Release", *Criminology and Criminal Justice*, Vol. 6, No. 1, 2006.

72 Ronald H. Aday, "Aging Prisoners' Concerns toward Dying in Prison", *Journal of Death and Dying*, Vol. 52, No. 3, 2006.

73 Lisa C. Barry, Dorothy B. Wakefield, Robert L. Trestman and Yeates Conwell, "Disability in Prison Activities of Daily Living and Likelihood of Depression and Suicidal Ideation in Older Prisoners", *International Journal of Geriatric Psychiatry*, January 2016.

74 B. A. Williams *et al.*, above note 50.

75 Carla M. Perissinotto, Irena Stijacic Cenzer and Kenneth E. Covinsky, "Loneliness in Older Persons: A Predictor of Functional Decline and Death", *JAMA Internal Medicine*, Vol. 172, No. 14, 2012.

76 The Sentencing Project, "Incarcerated Women and Girls", Fact Sheet, Washington, DC, 2015, available at: www.sentencingproject.org/wp-content/uploads/2016/02/Incarcerated-Women-and-Girls.pdf.

77 BJS, above note 8.

78 UN Office on Drugs and Crime, *Handbook on Women and Imprisonment*, 2nd ed., New York, 2014, available at: www.unodc.org/documents/justice-and-prison-reform/women_and_imprisonment_-_2nd_edition.pdf.

many Latin American and European nations.[79] Yet the needs of older women risk being overlooked in many correctional systems that were originally designed to care for young, healthy men.

Few studies have considered the health-care needs of older women in correctional facilities. Much of what is known about women's health in correctional settings has been focused on the reproductive health of younger women.

Some inferences can be made about the health-related needs of incarcerated older women based on the few studies focused on this population, studies about incarcerated younger women, and what is known about the health-care needs of community-dwelling older women. For example, incarcerated women are more likely to have HIV/AIDS and other sexually transmitted diseases (STDs) than incarcerated men.[80] Studies from Texas have demonstrated that the prevalence of hepatitis B and C, HIV/AIDS, MRSA and syphilis are higher in incarcerated older women than in incarcerated older men.[81] The high prevalence of sexually transmitted diseases is perhaps not surprising given the large number of incarcerated women who have experienced a history of physical or sexual abuse (57% in one study)[82] or victimization (between 77% and 90%),[83] or who have engaged in commercial sex work. For example, 6.5% of women admitted to the New York City jail system in 2009 were sex workers, and these women were found to have a higher prevalence of STDs than non-sex workers.[84]

Incarcerated women are also more likely to report drug or alcohol addiction and to be incarcerated for a drug-related crime compared to men (e.g., 59% of incarcerated women in the federal prison system in the United States compared to 40% of incarcerated men in the same corrections system in 2015).[85] The interconnected challenges of mental health and substance use disorders, histories of trauma, and sexually transmitted disease warrant special interventions in this population. As a result, many have advocated for the training of correctional clinicians to provide "trauma-informed care" to women in correctional settings.[86]

In the community, geriatric syndromes including cognitive impairment and dementia, incontinence, falls and functional impairment are more common

79 *Ibid.*

80 Michele Staton, Carl Leukefeld and J. Matthew Webster, "Substance Use, Health, and Mental Health: Problems and Service Utilization among Incarcerated Women", *International Journal of Offender Therapy and Comparative Criminology*, Vol. 47, No. 2, 2003.

81 J. Baillargeon *et al.*, above note 35.

82 Natasha A. Frost, Judith Greene and Kevin Pranis, Hard Hit: The Growth of Imprisonment of Women, 1977–2004, Women's Prison Association, New York, 2006, available at: http://csdp.org/research/HardHitReport4.pdf.

83 Nena Messina and Christine Grella, "Childhood Trauma and Women's Health Outcomes in a California Prison Population", *American Journal of Public Health*, Vol. 96, No. 10, 2006.

84 Farah Parvez, Monica Katyal, Howard Alper, Ruth Leibowitz and Homer Venters, "Female Sex Workers Incarcerated in New York City Jails: Prevalence of Sexually Transmitted Infections and Associated Risk Behaviors", *Sexually Transmitted Infections*, Vol. 89, No. 4, 2013.

85 BJS, above note 8.

86 Stephanie S. Covington and Barbara E. Bloom, "Gendered Justice: Women in the Criminal Justice System", in Barbara E. Bloom (ed.), *Gendered Justice: Addressing Female Offenders*, Carolina Academic Press, Durham, NC, 2003.

in women than in men.[87] Osteoporosis, which increases the chance that a fall will lead to a fracture and to temporary or permanent disability, is four times as common in women over age 50 than men.[88] In a study of incarcerated women aged 55 or older in California, 16% reported needing help with at least one ADL and 55% reported a fall in the past year.[89] The disproportionate burden of medical illness and disability reported by incarcerated women may explain their high health-care utilization rates[90] and could suggest that incarcerated older women are significant contributors to increasing correctional health-care costs. In addition, the worse health profile of incarcerated women in the United States has resulted in a relative risk of mortality in the first two years following release from prison being 5.5 times greater than the community norm, while the relative risk for men is 3.3 times greater than the community norm.[91]

Conditions of Confinement

Environmental and systemic challenges for the geriatric prisoner population

Conditions of confinement in most correctional facilities present challenges to many older adults who are unable to adapt to the environment's unique physical demands. Sometimes the correctional facility's physical layout presents dangers to older adults.[92] For example, uneven flooring, poor lighting and excess crowding can contribute to a risk of falls.[93] Correctional facilities that significantly restrict freedom of movement for much of the day may run the risk of contributing to physical deconditioning in older adults, an additional risk factor for falls, morbidity and mortality. Older individuals who require additional time to get places may require assistance with ambulation and travel to safely move between settings or to get places on time, such as for meals.[94] Additionally, older adults can experience impaired thirst and temperature regulation[95] which can pose a

87 C. S. Landefeld *et al.*, above note 36.
88 Anne C. Looker, Lori G. Borrud, Bess Dawson-Hughhes, John A. Shepherd and Nicole C. Wright, "Osteoporosis or Low Bone Mass at the Femur Neck or Lumbar Spine in Older Adults: United States, 2005–2008", NCHS Data Brief, No. 93, National Center for Health Statistics, Hyattsville, MD, 2012.
89 B. A. Williams *et al.*, above note 28.
90 B. Jayne Anno, Camila Graham, James E. Lawrence and Ronald Shansky, "Correctional Health Care: Addressing the Needs of Elderly, Chronically Ill, and Terminally Ill Inmates", Criminal Justice Institute, Middletown, CT, 2004; Christine H. Lindquist and Charles A. Lindquist, "Health Behind Bars: Utilization and Evaluation of Medical Care among Jail Inmates", *Journal of Community Health*, Vol. 24, No. 4, 1999.
91 Ingrid A. Binswanger, Marc F. Stern, Richard A. Deyo, Patrick J. Heagerty, Allen Cheadle, Joann G. Elmore and Thomas D. Koepsell, "Release from Prison – a High Risk of Death for Former Inmates", *New England Journal of Medicine*, Vol. 356, No. 2, 2007.
92 B. A. Williams *et al.*, above note 28.
93 Cynthia Massie Mara, "Expansion of Long-Term Care in the Prison System: An Aging Inmate Population Poses Policy and Programmatic Questions", *Journal of Aging & Social Policy*, Vol. 14, No. 2, 2002.
94 UN Office on Drugs and Crime, above note 2.
95 B. A. Williams *et al.*, above note 4.

significant danger for those incarcerated in facilities with inadequate heating or cooling systems.[96] Moreover, some US correctional facilities have been found to fall short on universal accessibility requirements due to budgetary constraints.[97]

A physical impairment need not lead to disability if the environment can be modified to meet the individual's needs; installation of grab bars and seats in the shower and the placement of special doorknobs to accommodate poor dexterity due to arthritis are examples of environmental modifications that can improve independent living.[98] A comprehensive inventory of the tasks required of an incarcerated individual to function in his or her housing unit and a systematic assessment of his or her capacity to meet those expectations are necessary to identify the environment most conducive to maintaining his or her independence. This is important because this so-called "environmental/functional mismatch" is often underappreciated, placing older adults at avoidable risk of injury or loss of independence.[99]

Some environmental/functional mismatch may also be overcome with additional staffing to assist older adults with self-care. According to the US Bureau of Labor Statistics, nearly a million Americans are employed in the community as home health aides or personal care workers, an industry that is expected to grow significantly over the coming years.[100] Personal care workers are trained to assist with ADLs such as transferring, dressing and feeding for those patients in need. While most prisons do not allow personal care workers to provide physical assistance that could compromise the safety or dignity of patients (such as with toileting or bathing), personal care volunteers in correctional settings are sometimes used to provide companionship or to accompany older adults around the facility, such as to the dining hall for meals.

Sometimes, older adults face challenges accessing correctional health-care services and programming. For example, some correctional facilities require payment for health-care visits, written requests for medical appointments or standing in waiting areas for an appointment,[101] all of which may pose barriers to care for some older adults. Additionally, individuals who experience prolonged incarcerations rely on institutional programming for stimulation, socialization and opportunities for personal development. But prison programming is rarely designed to meet the physical, developmental and social needs of older adults, who, for example, may already have a high-school degree and therefore not

96 Alan Blinder, "In U.S. Jails, a Constitutional Clash over Air-Conditioning", *New York Times*, 15 August 2016, available at: www.nytimes.com/2016/08/16/us/in-us-jails-a-constitutional-clash-over-air-conditioning.html?_r=0.

97 Human Rights Watch, *Old Behind Bars: The Aging Prison Population in the United States*, 2012, available at: www.hrw.org/sites/default/files/reports/usprisons0112webwcover_0_0.pdf.

98 Michael E. Rogers, Nicole L. Rogers, Nobuo Takeshima and Mohammod M. Islam, "Reducing the Risk for Falls in the Homes of Older Adults", *Journal of Housing for the Elderly*, Vol. 18, No. 2, 2004.

99 B. A. Williams *et al.*, above note 28.

100 Bureau of Labor Statistics, *Occupational Outlook Handbook, 2016–17 Edition: Home Health Aides*, US Department of Labor, Washington, DC, 2017, available at: www.bls.gov/ooh/healthcare/home-health-aides.htm.

101 T. Hill *et al.*, above note 58.

benefit from high-school education programming, may not be able to participate in employment training that is reliant upon physical labour, and may feel out of place when spending their days in the company of much younger adults.[102]

Some facilities have developed age-segregated housing to overcome the common mismatch between correctional housing units and the needs of older adults. Such units can be constructed and staffed to mitigate environmental hazards and facilitate access to clinical health-care staff, and can sometimes minimize fear of elder abuse.[103] Yet many consider older adults to be a stabilizing force in prisons and to serve as a source of wisdom and support for younger adults.[104] In addition, many incarcerated older adults have developed rich relationships with incarcerated younger adults, some of whom act as informal caregivers.[105] Age-segregated units can fracture these relationships and lead to enhanced social isolation for older adults.[106]

Sending older adults to specially constructed geriatric facilities may also result in moving them further away from their families and home communities, which can decrease their access to outside visitors.[107] Additionally, constructing and running special facilities that appropriately accommodate the highest level of need for older adults is expensive. At a New York State nursing home-style unit designed to house incarcerated older adults with dementia, an average individual's care costs more than twice what it would cost to live in a nursing home outside of the correctional setting.[108] Further research is needed to understand the impact of segregated housing units as a solution for some of the problems posed to incarcerated older adults.[109]

The risk of administrative segregation for older adults

Administrative segregation – also called solitary confinement, special housing units, special needs units or supermax – is defined in the Mandela Rules as confinement for twenty-two hours or more per day without meaningful human contact.[110] In the United States, solitary confinement often refers to the even more punitive correctional practice of housing prisoners in a small cell (roughly six by eight feet) for approximately twenty-three hours a day, with little to no human

102 Office of the Inspector General, above note 7.
103 UN Office on Drugs and Crime, above note 2; John K. Kerbs and Jennifer M. Jolley, "A Commentary on Age Segregation for Older Prisoners", *Criminal Justice Review*, Vol. 34, No. 1, 2009.
104 Human Rights Watch, above note 97.
105 *Ibid.*
106 *Ibid.*
107 UN Office on Drugs and Crime, above note 2; Human Rights Watch, above note 97.
108 Michael Hill, "New York Prison Creates Dementia Unit", *Washington Post*, 29 May 2007, available at: www.washingtonpost.com/wp-dyn/content/article/2007/05/29/AR2007052900208.html; Maura Ewing, "When Prisons Need to Be More Like Prison Nursing Homes", *Marshall Project*, 27 August 2015, available at: www.themarshallproject.org/2015/08/27/when-prisons-need-to-be-more-like-nursing-homes#.3EYvevSg9.
109 B. A. Williams *et al.*, above note 4.
110 UN General Assembly, *The United Nations Standard Minimum Rules for the Treatment of Prisoners (the Nelson Mandela Rules)*, A/RES/70/175, 8 January 2016, available at: www.unodc.org/documents/justice-and-prison-reform/GA-RESOLUTION/E_ebook.pdf.

interaction and only three to seven hours of exercise per week.[111] The use of solitary confinement is common in the United States with estimates that nearly one fifth of the country's incarcerated population – approximately 400,000 individuals – spend time in solitary confinement over the course of a year.[112] While in solitary confinement, prisoners often lack regular access to exercise and exposure to sunlight. These conditions pose a challenge for providing adequate health care and managing ageing-related health conditions.

Geriatric conditions like dementia, arthritis and osteoporosis can be exacerbated by the conditions found in solitary confinement such as profound lack of exercise, decreased exposure to sunlight leading to lower vitamin D levels, and minimal social interaction.[113] Studies among community-dwelling older adults have found that spending too much time alone poses a risk for developing increased blood pressure, physical deconditioning and depression.[114] Social isolation and loneliness alone have been associated with increased mortality.[115] Based on what is known about the risk of worsening health in older adults, the health-related impact of isolation on incarcerated older adults is likely profound.

Serious, life-limiting illness, dying in prison and compassionate release

As the correctional population ages, an increasing number of incarcerated individuals are at risk of developing serious, life-limiting illnesses and dying while incarcerated. Serious, life-limiting illnesses are often debilitating for a long period of time before death and require enhanced medical attention, which can create challenges for correctional staff and strain health system resources. Clinicians with advanced training in the management of symptomatic distress in advanced

111 Hope Metcalf, Jamelia Morgan, Samuel Oliker-Friedland, Judith Resnik, Julia Spiegel, Haran Tae, Alyssa Roxanne Work and Brian Holbrook, *Administrative Segregation, Degrees of Isolation, and Incarceration: A National Overview of State and Federal Correctional Policies*, Yale Law School, Public Law Working Paper, 2013.

112 Allen J. Beck, *Use of Restrictive Housing in U.S. Prisons and Jails, 2011–12*, BJS, DoJ, Washington, DC, 2015, available at: www.bjs.gov/content/pub/pdf/urhuspj1112.pdf.

113 M. F. Holick, above note 41; C. M. Perissinotto, I. Stijacic Cenzer and K. E. Covinsky, above note 75; L. D. Gillespie, M. Robertson, W. J. Gillespie, C. Sherrington, S. Gates, L. M. Clemson and S. E. Lamb, "Interventions for Preventing Falls in Older People Living in the Community", *Cochrane Database of Systematic Review*, Vol. 2, 2009.

114 Louise C. Hawkley, Ronald A. Thisted and John T. Cacioppo, "Loneliness Predicts Reduced Physical Activity: Cross-Sectional and Longitudinal Analyses", *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, Vol. 28, No. 3, 2009; John T. Cacioppo, Mary Elizabeth Huges, Linda J. Waite and Ronald Thisted, "Loneliness as a Specific Risk Factor for Depressive Symptoms: Cross-Sectional and Longitudinal Analyses", *Psychology and Aging*, Vol. 21, No. 1, 2006; Eric B. Larson, Li Wang, James D. Bowen, Wayne C. McCormick, Linda Teri, Paul Crane and Walter Kukull, "Exercise Is Associated with Reduced Risk for Incident Dementia Among Persons 65 Years of Age and Older", *Annals of Internal Medicine*, Vol. 144, No. 2, 2006.

115 C. M. Perissinotto, I. Stijacic Cenzer and K. E. Covinsky, above note 75; M Tabue Teguo, N. Simo-Tabue, R. Stoykova, C. Meillon, M. Cogne, H. Amiéva and J. F. Dartiques, "Feelings of Loneliness and Living Alone as Predictors of Mortality in the Elderly: The PAQUID Study", *Psychosomatic Medicine*, Vol. 78, No. 8, 2016.

illness are needed so that incarcerated patients do not experience severe pain or distressing symptoms that unnecessarily cause a loss of their functional capacity. Older adults in correctional settings have reported a particularly high symptom burden compared to their younger counterparts.[116]

Moreover, a rising death rate in US correctional facilities has created an urgent need for correctional staff training in the management of the seriously ill, and a need for improved housing options for those with serious illness or who are dying.[117] As a result, many correctional facilities are exploring options for improving the care of dying patients while simultaneously considering the expansion of opportunities for early medical release for the seriously ill.[118]

Palliative care and hospice care in correctional facilities

One out of every eleven US prisoners is serving a life sentence; of these, a third have no possibility of obtaining parole.[119] In 2013 there were over 3,800 deaths in US prisons. Over 80% of individuals who died in state prisons were over 45 years old, and 85% of those deaths were attributed to chronic illness.[120]

Correctional facilities may face challenges when providing care to terminally ill and actively dying patients. The community standard of care for persons with a life-limiting or serious illness is palliative care.[121] Palliative care is specialized medical care for people with serious illness; its goal is to improve quality of life for the patient and their loved ones.[122] Palliative care-trained clinicians have advanced training in symptom management and in the science of prognosis.[123] Without training in prognosis, correctional clinicians may fail to identify potential candidates for early medical release programmes before it is too late for them to live through a prolonged assessment process.[124]

116 Marielle Bolano, Cyrus Ahalt, Christine Ritchie, Irena Stijacic Cenzer and Brie A. Williams, "Detained and Distressed: Persistent Distressing Symptoms in a Population of Older Jail Inmates", *Journal of the American Geriatrics Society*, Vol. 64, No. 11, 2016; Brie A. Williams, Cyrus Ahalt, Irena Stijacic Cenzer, Alexander K. Smith, Joe Goldenson and Christine S. Ritchie, "Pain Behind Bars: the Epidemiology of Pain in Older Jail Inmates in a County Jail", *Journal of Palliative Medicine*, Vol. 17, No. 12, 2014.

117 B. A. Williams *et al.*, above note 4.

118 Human Rights Watch, *The Answer Is No: Too Little Compassion Release in US Federal Prisons*, 30 November 2012, available at: www.hrw.org/report/2012/11/30/answer-no/too-little-compassionate-release-us-federal-prisons; Office of the Inspector General, above note 7.

119 Ashley Nellis and Ryan S. King, *No Exit: The Expanding Use of Life Sentences in America*, Report, The Sentencing Project, Washington, DC, 2009, available at: www.sentencingproject.org/wp-content/uploads/2016/01/No-Exit-The-Expanding-Use-of-Life-Sentences-in-America.pdf.

120 Brie A. Williams, "Testimony of Brie Williams, MD, MS", *United States Sentencing Commission: Public Hearing on Compassionate Release and Conditions of Supervision*, 17 February 2016, available at: www.ussc.gov/sites/default/files/pdf/amendment-process/public-hearings-and-meetings/20160217/williams.pdf.

121 Amy S. Kelley and R. Sean Morrison, "Palliative Care for the Seriously Ill", *New England Journal of Medicine*, Vol. 373, No. 8, 2015.

122 Nathan E. Goldstein and R. Sean Morrison, *Evidence Based Practice of Palliative Medicine*, 1st ed., Elsevier, Amsterdam, 2013.

123 Timothy E. Quill and Amy P. Abernethy, "Generalist Plus Specialist Palliative Care – Creating a More Sustainable Model", *New England Journal of Medicine*, Vol. 368, No. 13, 2013.

124 B. A. Williams, above note 120.

Correctional settings present unique ethical and policy challenges in the provision of community-standard palliative care. For instance, there exists a great potential for patient–clinician mistrust due to the power imbalance inherent in the correctional setting.[125] The clinician–patient relationship may be strained further when patients fear that their treatment wishes will not be kept confidential or that their wishes for care at the very end of their life could affect their immediate needs for medical treatment.[126] An essential component of high-quality palliative care is patient-centred "advance care planning", a process by which a patient appoints a health-care proxy and documents his or her goals and wishes for treatment at the end of life. Research in US correctional facilities has suggested that several barriers exist to conducting effective advance care planning for incarcerated patients, including lack of staff support for the practice, patient–provider mistrust, and difficulty transferring and communicating advance care plans between correctional and non-correctional settings.[127] More research is needed to understand how to improve and optimize the delivery of advance care planning in correctional facilities.

In contrast to palliative care, which is appropriate at any time throughout the course of serious illness, hospice care is focused on providing pain and symptom management – including managing existential and psychological distress – to patients in their last months of life. Quality hospice care provides comprehensive support that is focused on comfort and ensuring dignity in the dying process.[128]

Many correctional facilities have developed hospice programmes or dedicated hospice facilities for dying patients.[129] Yet hospice eligibility restrictions in correctional facilities sometimes pose a challenge for optimal care of patients with serious illnesses. Most prison hospice units require that a patient has a prognosis of less than six months and has agreed to a "do not resuscitate" (DNR) order.[130] This second criteria, a DNR order, is not usually shared by community hospice organizations and can introduce an obstacle for individuals who do not wish to acquiesce to the order. It is important for correctional hospice programmes to follow national guidelines for best practices so that the level of care and services provided does not vary significantly by institution.[131]

125 Meredith Stensland and Sara Sanders, "Detained and Dying: Ethical Issues Surrounding End-of-Life Care in Prison", *Journal of Social Work in End-of-Life and Palliative Care*, Vol. 12, No. 3, 2016.

126 S. J. Loeb *et al.*, "End-of-Life Care and Barriers for Female Inmates", *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, Vol. 40, No. 4, 2011; M. Stensland and S. Sanders, above note 125.

127 Sara Sanders, Meredith Stensland, Jane Dohrmann, Erin Robinson and Kim Juraco, "Barriers Associated with the Implementation of an Advance Care Planning Program in a Prison Setting", *Journal of Social Work in End-of-Life and Palliative Care*, Vol. 10, No. 4, 2014.

128 N. E. Goldstein and R. S. Morrison, above note 122.

129 Human Rights Watch, above note 97; Heath C. Hoffman and George E. Dickinson, "Characteristics of Prison Hospice Programs in the United States", *American Journal of Hospice and Palliative Care*, Vol. 28, No. 4, 2011.

130 Rachel K. Wion and Susan J. Loeb, "CE: Original Research: End-of-Life Care Behind Bars: A Systematic Review", *American Journal of Nursing*, Vol. 116, No. 3, 2016.

131 National Hospice and Palliative Care Organization, *Quality Guidelines for Hospice and End-of-Life Care in Correctional Settings*, 2009, available at: www.nhpco.org/sites/default/files/public/Access/Corrections/CorrectionsQualityGuidelines.pdf; National Prison Hospice Association, *Prison Hospice Operational Guidelines*, 1998, available at: http://prisonhospice.files.wordpress.com/2011/11/prison-hospice-guidelines-revised3.doc.

Successful prison hospices are often staffed in part by prisoner-volunteers. These volunteers may derive great benefit themselves from the experience of caring for a dying patient.[132] They often receive extensive training and mentored experience in hospice practices.[133] However, volunteers require support from health-care staff, since it is common to feel overburdened when taking on critical caretaking roles, especially in the absence of adequate training.[134] As is standard of care in the community, an experienced and trained interdisciplinary care team that includes social workers, volunteers and chaplains should staff prison hospices.[135] Correctional facilities that fail to meet this interdisciplinary approach fall well below community care standards. Finally, symptom management for both seriously ill and dying patients is sometimes compromised by institutional limits on the use of evidence-based opioid analgesics, or other controlled substances, for seriously ill patients.[136] This presents obvious challenges for achieving adequate symptom control in patients who are in pain or who have other distressing symptoms that can best be treated with opioids, such as shortness of breath.

Early medical release

Early medical release (also called compassionate release or medical parole) is a policy that allows incarcerated patients with serious illness to die outside of a correctional setting before sentence completion.[137] These policies are grounded in the theory that a change in health status may affect the four principles justifying incarceration: retribution, rehabilitation, deterrence and incapacitation.[138] Early medical release policies generally consist of two components: (1) medical eligibility, based on physical health evidence; and (2) administrative approval (outside of the health-care system) for release based on legal and correctional evidence. Initiatives to expand early release policies in the United States in recent years have been prompted by the increasing number of incarcerated older adults and their high associated costs.[139] It is imperative that correctional health-care professionals understand the eligibility requirements for early release so that they know when it is appropriate to proceed with a petition.

For seriously ill patients who are difficult to care for in the correctional environment, early release policies should be pursued when a safe release plan

132 Kevin N. Writing and Laura Bronstein, "Creating Decent Prisons: A Serendipitous Finding about Prison Hospice", *Journal of Offender Rehabilitation*, Vol. 44, No. 4, 2008.
133 H. C. Hoffman and G. E. Dickinson, above note 129.
134 Kristin G. Cloyes, Susan J. Rosenkranz, Patricia H. Berry, Katherine P. Supiano, Meghan Routt, Kathleen Shannon-Dorcy and Sarah M. Llanque, "Essential Elements of an Effective and Sustainable Prison Hospice Program", *American Journal of Hospice and Palliative Care*, Vol. 33, No. 4, 2016; M. Stensland and S. Sanders, above note 125.
135 *Ibid.*
136 Violet Handtke, Hans Wolff and Brie A. Williams, "The Pains of Imprisonment: Challenging Aspects of Pain Management in Correctional Settings", *Pain Management*, Vol. 6, No. 2, 2016.
137 Brie A. Williams, Rebecca L. Sudore, Robert Greifinger and R. Sean Morrison, "Balancing Punishment and Compassion for Seriously Ill Prisoners", *Annals of Internal Medicine*, Vol. 155, No. 2, 2011.
138 *Ibid.*
139 *Ibid.*

has been identified. Unfortunately, the early release process in many US jurisdictions is rife with obstacles that prevent potentially eligible candidates from even being evaluated for their medical eligibility and, once approved, from being released in a timely fashion. Between August 2013 and September 2014, only 320 federal prisoners in the United States submitted requests for compassionate release, and only 111 were released.[140] This is surprising given that the system has over 4,000 prisoners over the age of 65, and many have serious or debilitating illnesses.[141]

One important barrier to accessing early release is that applications are often submitted too late in a person's disease trajectory, when they are likely to die or become incapacitated prior to having their request approved.[142] Furthermore, it is common for physicians to be required to attest that the applicant has a fixed, short-term prognosis.[143] This can put excessive burden on the clinician since many common terminal illnesses, such as Alzheimer's disease, end-stage liver disease and congestive heart failure, have an unpredictable trajectory but are profoundly incapacitating for many years prior to death.

To increase their effectiveness, early medical release policies should reflect the different ways in which people experience serious illness. Patients should be able to apply for release at a stage in their illness when they are profoundly functionally or cognitively impaired, even when they have several months or years to live, so they can benefit from release.[144] In the United States, the Federal Bureau of Prisons and several states have expanded their early medical release programmes. Some have introduced a mechanism for early release for older adults based on age alone, after a specified portion of their sentence has been completed.[145]

Returning to the community: Addressing the needs of older adults released from prison

The period following release from prison is a challenging and often dangerous time for many individuals, and older people are especially vulnerable to adverse outcomes. One study identified a dramatic increase in mortality compared to age-matched controls for people recently released from prison.[146] Some of this excess mortality risk was due to chronic disease (coronary artery disease, cancer), suggesting that the cause is sometimes attributable to interruptions in care, resources and/or social support.[147]

140 Office of the Inspector General, *The Federal Bureau of Prisons' Compassionate Release Program*, US Department of Justice, Washington, DC, 2013, available at: https://oig.justice.gov/reports/2013/e1306.pdf.
141 Office of the Inspector General, above note 7.
142 Office of the Inspector General, above note 140.
143 B. A. Williams *et al.*, above note 137.
144 B. A. Williams, above note 120.
145 *Ibid.*
146 I. A. Binswanger *et al.*, above note 91.
147 *Ibid.*

Moreover, without skilled support, older adults may have particular difficulty navigating the processes required to obtain social benefits, finding employment and suitable housing, and getting connected to health care following release.[148] As a result, they may risk running out of medication, requiring visits to the emergency department and/or hospitalization for decompensation of chronic medical conditions that could have been managed in an outpatient clinic.[149]

To help individuals who are transitioning back to the community achieve success, the same geriatric transitional care models that are effective for hospital discharge should be adapted for older prisoners.[150] Such models include assigning case managers prior to discharge who assess needs and anticipate issues that might arise, and who follow their client post-discharge to help troubleshoot concerns.[151] Exemplary models of transitional care that incorporate elements of hospital discharge programmes have been designed to meet the needs of individuals re-entering the community after a period of incarceration. One such programme, Project START, provides sequential risk assessment and personalized counselling sessions to young men with HIV and hepatitis C both before and after they are released from prison.[152] Similarly, the Transitions Clinic programme in San Francisco pairs recently released individuals with community health workers who have a personal history of incarceration, and has been shown to decrease emergency room visits in the period following release from prison.[153] Similar strategies should be adapted to the specific needs of geriatric patients with complex medical needs who are returning to the community.

Discharges of older adults can be particularly difficult to plan when the individual requires a nursing-home level of care.[154] In the United States, it can be difficult to find nursing homes willing to accept individuals being released from prison, especially those with a history of sex offences or violence. In response to this challenge, the state of Connecticut now manages its own community-based skilled nursing facility where older adults in need of skilled care can be released on parole.[155]

148 Human Rights Watch, above note 97.

149 Joseph W. Frank, Jeffrey A. Linder, William C. Becker, David A. Fiellin and Emily A. Wang, "Increased Hospital and Emergency Department Utilization by Individuals with Recent Criminal Justice Involvement: Results of a National Survey", *Journal of General Internal Medicine*, Vol. 29, No. 9, 2014.

150 Eric A. Coleman and Chad Boult, "Improving the Quality of Transitional Care for Persons with Complex Care Needs", *Journal of the American Geriatrics Society*, Vol. 51, No. 4, 2003.

151 *Ibid.*

152 Centers for Disease Control and Prevention, *Project START, Best Evidence – Risk Reduction*, Atlanta, Georgia, September 2015, available at: www.cdc.gov/hiv/pdf/research/interventionresearch/compendium/cdc-hiv-project_start_best_rr.pdf; Richard J. Wolitski and Project START Writing Group, "Relative Efficacy of a Multisession Sexual Risk-Reduction Intervention for Young Men Released From Prisons in 4 States", *American Journal of Public Health*, Vol. 96, No. 10, 2006.

153 Emily A. Wang, Clemens S. Hong, Shira Shavit, Ronald Sanders, Eric Kessell and Margot B. Kushel, "Engaging Individuals Recently Released from Prison into Primary Care: A Randomized Trial", *American Journal of Public Health*, Vol. 102, No. 9, 2012.

154 Christine Vestal, "For Aging Inmates, Care Outside Prison Walls", Pew Charitable Trusts, 12 August 2014, available at: www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2014/08/12/for-aging-inmates-care-outside-prison-walls.

155 M. Ewing, above note 108.

Where do we go from here?

The challenge of providing community-standard health-care to an ageing prison population has been the subject of multiple recent convenings to establish a research and policy agenda and to share best practices.[156] Improving care for this population depends on interprofessional partnerships including correctional leadership and front-line staff, public health researchers, community agencies, neighbourhood associations, formerly incarcerated individuals and their families, law enforcement, and community and correctional clinicians. In addition, research money must be allocated by national grant-making agencies to build the evidence base needed for effective models of care for this population.[157]

As health-care providers, researchers and corrections officials continue to build a fund of knowledge about the impact of incarceration on older adults and the impact of an ageing prisoner population on correctional facilities, leaders in the field of corrections should simultaneously adapt effective community-based geriatric care programmes to the correctional setting. One place to start would be to better align the approach to geriatric health in correctional settings with the standard of care that older adults are offered in the community. This would require training clinical staff to recognize and manage geriatric conditions, along with evidence-based prognostication and symptom management. Models exist for training of community clinicians in the practice of palliative care and geriatrics by primary care doctors who have not undergone speciality training in these areas.[158] These models have been adapted successfully for use in some correctional systems to train both clinicians and corrections staff,[159] and should be expanded and made part of universal training protocols in all correctional settings.

Furthermore, hospitals and community clinics have increasingly recognized the need to "geriatricize" their clinical spaces and to provide dedicated programming for geriatric patients, a practice which should be adopted for correctional facilities as well.[160] Some correctional medical units have begun this process. For example, HPM Whatton, a correctional facility in England with a large number of older patients, offers elderly inmates the opportunity to live in cohorted spaces that are accessible to individuals with mobility issues.[161] This

156 B. A. Williams *et al.*, above note 4; House of Commons Justice Committee, *Older Prisoners: Fifth Report of Session 2013–14,* House of Commons, London, 2013, available at: www.parliament.uk/documents/commons-committees/justice/older-prisoners.pdf.

157 Cyrus Ahalt, Ingrid A. Binswanger, Michael Steinman, Jacqueline Tulsky and Brie A. Williams, "Confined to Ignorance: The Absence of Prisoner Information from Nationally Representative Health Data Sets", *Journal of General Internal Medicine*, Vol. 27, No. 2, 2012.

158 T. E. Quill and A. P. Abernethy, above note 123.

159 Meera Sheffrin, Cyrus Ahalt, Irena Stijacic Cenzer and Brie A. Williams, "Geriatrics in Jail: Educating Professionals to Improve the Care of Older Inmates", presented at the American Geriatrics Society Annual Conference, Long Beach, CA, 2016.

160 Audrey Ed Chun, *Geriatric Care by Design: A Clinician's Handbook to Meet the Needs of Older Adults Through Environmental and Practice Redesign*, 1st ed., American Medical Association, 2011.

161 Lynn Saunders, "Older Offenders: The Challenge of Providing Services to Those Aging in Prison", *Prison Services Journal*, No. 208, 2013.

prison trains staff in geriatric care, provides targeted activities for older adults and has developed a paid peer support programme.[162]

To meet the community standard of care, all prisoners of advanced age, or who are seriously ill, should have access to palliative care and hospice services. Concurrent expansion of compassionate release policies would also limit the need for these resources and decrease the burden on prisons to accommodate the elderly or seriously ill who may be better served in the community. For this reason, compassionate release policies should be designed to incentivize saying "yes" to an applicant's release rather than "no" and should be designed with input from medical specialists in prognostication, geriatrics and end-of-life care.

Another important avenue of inquiry is in the evaluation and optimization of effective alternatives to incarceration for older adults, especially those with cognitive impairment or dementia. Such alternatives might include house arrest, the use of electronic tracking devices, or diversion to nursing homes or hospices rather than prisons.[163] To avoid incarcerating those in the early stages of dementia, all older arrestees should be screened for cognitive impairment and assessed for their appropriateness for living in a correctional facility.

Finally, as we consider the impact that incarcerating older adults has on the individual, we cannot lose sight of the profound adverse impact that incarcerating older citizens can have on our communities. The psychologist Erik Erickson famously described the life stages of middle and old age as opportunities for "generativity", or caring for the next generation and offering guidance, and "ego integration", a chance to reflect and take stock.[164] When older adults do not have the chance to interact meaningfully with younger generations and offer their reflections and advice, they are deprived of an important social role and their family and community fails to gain their accumulated experience, perspective and wisdom.

Overall, at a most basic level, providing appropriate care for older or seriously ill prisoners is complex and, oftentimes, daunting. This complexity, in combination with the exorbitant costs generated by older prisoners, provokes important social questions that we will have to answer as our world population continues to grow older. Are there some people for whom incarceration is not appropriate? How do we determine when that moment has arisen? And what alternative mechanisms exist to restrict a person's liberty? It is time to start asking these questions now.

162 *Ibid.*

163 Office of National Drug Control Policy, "Alternatives to Incarceration", The White House, Washington, DC, available at: https://obamawhitehouse.archives.gov/ondcp/alternatives-to-incarceration.

164 Erik H. Erikson, *Identity and the Life Cycle*, reissue ed., Norton, New York, 1994.