The Case for Improving the Health of Ex-Prisoners

The global prison population exceeds 10 million and continues to grow; more than 30 million people are released from custody annually. These individuals are disproportionately poor, disenfranchised, and chronically ill.

There are compelling, evidence-based arguments for improving health outcomes for ex-prisoners on human rights, public health, criminal justice, and economic grounds. These arguments stand in stark contrast to current policy and practice in most settings.

There is also a dearth of evidence to guide clinicians and policymakers on how best to care for this large and growing population during and after their transition from custody to community. Well-designed longitudinal studies, clinical trials, and burden of disease studies are pivotal to closing this evidence gap. (*Am J Public Health.* 2014;104:1352–1355. doi:10.2105/AJPH.2014.301883)

Stuart A. Kinner, PhD, and Emily A. Wang, MD, MAS

THE WORLD PRISON POPULA- tion is more than 10.75 million and is growing at a rate in excess of population growth.[1] Although in the United States there is a distinction between prisoners (felony offenders incarcerated in state and federal prisons) and jail detainees (mostly misdemeanor offenders), this distinction is not made in most countries. Here we use the term prisoner to refer to both prisoners and jail detainees. Because of the rapid turnover of custodial populations, it has been estimated that globally, more than 30 million people move through prisons each year.[2] Incarceration rates vary markedly within and between countries, and are heavily influenced by public policy decisions, such as the criminalization of drug users[3] and the deinstitutionalization of the mentally ill.[4] The United States has the highest incarceration rate in the world (743 per 100 000 population) and accounts for more than one fifth of the world's prisoners, with approximately 2.2 million people in custody on any one day.[1] Of these, 1.5 million are held in state and federal prisons, and spend on average three years in custody before returning to the community; more than 700 000 are held in local jails, where the average stay is less than seven days. Given the large incarcerated population and rapid turnover of jail detainees, in excess of 11 million persons pass through US correctional facilities each year—more than in any other country.[5–7]

Prisoners globally are characterized by complex and multifaceted health problems.[8] Although imprisonment confers its own unique health risks,[9,10] health usually improves in custody, where stable accommodation and regular meals are provided at little or no cost, illicit drugs are less readily available, and high-intensity health services are routinely provided.[11,12] Unfortunately, these health gains are often rapidly lost after return to the community, where many ex-prisoners experience poor health-related outcomes, including poorly controlled disease,[13] elevated rates of life-threatening drug overdose,[14,15] preventable hospitalization,[16,17] and mortality.[18,19] Key to improving these outcomes is increased access to health care for ex-prisoners,[20] but this has proven difficult to achieve. Despite recent encouraging research findings,[21] the greater challenge has been translating promising pilot programs into policy, at scale and in a sustainable way. Here we make the case for improving the health of ex-prisoners, in the hope that this will provide a platform for evidence-based advocacy to improve the health of this profoundly marginalized, challenging, and underserved population.

MAKING THE CASE

We believe that there are at least four compelling reasons to improve the health of ex-prisoners.

Human Rights and Equivalence

The United Nations Basic Principles for the Treatment of Prisoners make specific reference to health services for prisoners. According to Principle 9, "Prisoners shall have access to the health services available in the country without discrimination on the grounds of their legal situation."[22] This is sometimes referred to as the principle of equivalence, and given the disproportionate burden of disease among prisoners, health services for prisoners should be, and in some respects are, similarly disproportionate.[23] Unfortunately, this high intensity of care typically unravels as prisoners approach their release date, with transitional arrangements often ad hoc, underfunded, and of unknown effectiveness.[24] After return to the community, while health and social circumstances are rapidly declining,[25] access to health services is typically poor because of a combination of individual, social, structural, and economic factors. This situation is in stark contrast to Principle 10 of the Basic Principles, which states that

> with the participation and help of the community and social institutions . . . favourable conditions shall be created for the reintegration of the ex-prisoner into society under the best possible conditions.[22]

Therefore, there is a compelling human rights argument for improving the health of ex-prisoners, but at present, there is a stark contrast between the high intensity of health care in prison and the predictably poor health outcomes after release.

Prisoner Health Is Public Health

The prevalence of communicable diseases, including HIV, hepatitis C, tuberculosis, and sexually transmitted infections is greatly

elevated in offending populations[26–28]; prisons are increasingly recognized as presenting a pivotal opportunity to screen and initiate treatment of infected individuals.[28,29] However, even when treatment is provided in custody, release from custody often precipitates a breakdown in treatment adherence, increased infectivity, and an escalation of risky behaviors including unprotected sex and sharing of injecting equipment, which has a direct and measurable impact on the health of the broader community.[30] For example, among HIV-infected illicit drug users, recent incarceration has been associated with reduced adherence to antiretroviral therapy and virologic failure.[31,32] Release from incarceration has also been associated with HIV risk behaviors, including syringe sharing[33,34] and unprotected sex.[35] Given the high prevalence of communicable disease in prisoners, prisons therefore represent a public health opportunity. However, a corollary of this is that release from prison constitutes a public health risk, and proper management of this risk hinges on minimizing risk behavior and infectivity among those released. Findings from recent randomized controlled trials suggest that appropriately designed and implemented programs can reduce risk behavior[36] and increase treatment adherence[37] among recently released prisoners with infectious disease; however, scale-up of these and similar programs at a population level have been patchy at best.

Despite their relative youth, prisoners are also disproportionately affected by noncommunicable diseases, including hypertension and diabetes.[38–40] This elevated risk remains after adjustment for traditional risk factors, including socioeconomic disadvantage, obesity, and tobacco, alcohol, and illicit drug use.[41] Similarly, the prevalence of mental illness is markedly elevated in prisoners[42,43] and is associated with impaired physical health.[44] After return to the community, these complex health problems become public health problems, and if poorly managed, can adversely impact the well-being of wider society.[45]

The health status and health behaviors of ex-prisoners also have a direct impact on the health of another large and disadvantaged segment of the population: the families of prisoners and ex-prisoners.[46] Parental incarceration has been associated with a range of poor health-related, behavioral, economic, and criminal justice outcomes in children.[47–51] Incarceration also adversely affects intimate relationships, both directly through the transmission of infectious disease[30] and indirectly through the disintegration of emotional bonds.[52]

The Argument for Public Safety

An emerging literature is beginning to document links between poor health outcomes in ex-prisoners and risk of recidivism. The association between substance use and recidivism is well documented,[53,54] and there is growing evidence that poorly treated mental illness can also increase the risk of offending, particularly in the context of co-occurring substance use disorders.[55,56] In the United States, two studies of people returning from jail to the community found that health insurance was protective against recidivism[20,57]—a significant finding given the recent expansions to health coverage for former prisoners in the United States.[58]

Improving the health of ex-prisoners may therefore have flow-on effects of reduced crime, although to date few studies have been able to examine this empirically; the limited evidence from trials has been equivocal.[24]

The Economic Argument

There is emerging evidence that ex-prisoners underutilize preventive health care but are overrepresented in acute care settings (e.g., hospitals and emergency departments), often presenting with preventable or poorly managed conditions. One study from Western Australia followed a cohort of 7414 adults after release from custody and found that within one year of release, 20% had been hospitalized, at a total cost of AU $10.4 million. More than one third (37%) of bed days were the result of mental and behavioral disorders, and a further 22% were caused by injury and poisoning.[16] Similarly, in a study of 110 419 Medicare beneficiaries released from a correctional facility in the United States from 2002 to 2010, the rate of hospitalization for acute conditions was significantly higher than among matched community controls, with approximately one in 12 former inmates hospitalized within 90 days of release.[17]

Other studies have estimated the costs of crime, incarceration, substance misuse, and mental illness in the population at large; the proportion of these costs attributable to ex-prisoners is unknown but likely to be substantial. There is an urgent need for health economic studies to estimate the avoidable economic costs associated with poor health outcomes in ex-prisoners, both directly through utilization of high-cost acute health services and indirectly through collateral costs (e.g., unemployment, crime) associated with poor health outcomes. To enable this, we strongly urge those undertaking evaluation studies in this area to include economic costs among their outcomes.

FUTURE DIRECTIONS

There is a growing literature documenting a range of adverse health outcomes in ex-prisoners, but important knowledge gaps remain. To further strengthen the case for improving the health of ex-prisoners, we urge researchers to consider the following:

1. Longitudinal and record linkage studies of individuals transitioning into and out of prison settings, including examination of the natural history of key health conditions to quantify the long-term health impacts (good and bad) of incarceration. In addition to studies of high-risk populations (e.g., HIV-infected prisoners), we urge our colleagues to consider whole-of-population studies and to measure a range of outcomes, including direct health and social outcomes, health service outcomes, offending outcomes, and economic outcomes.
2. Attempts to quantify the burden of disease in prisoners globally. The world prison population exceeds 10 million,[1] and it is estimated that more than 30 million adults move through prisons each year.[2] This large and unwell group is typically excluded from the population surveys that inform burden of disease estimates. A key limitation in this regard is the dearth of high-quality studies estimating the (prisoner) population prevalence of key health conditions and quantifying the

health impact of incarceration on the individual, family, and community.

3. Rigorous evaluation of reentry interventions. Only a handful of reentry interventions globally have been subjected to rigorous evaluation, and some have produced null or even adverse findings. None has been implemented at a (prisoner) population level.[24,59] Rigorous evaluation studies in this field that focus on individual health, public health, public safety, and economic cost are challenging, but possible, and urgently required.

CONCLUSIONS

In a context in which human rights and criminal justice priorities often suggest conflicting courses of action, we have identified a rare alignment of human rights, public health, public safety, and economic imperatives. This is at odds with a remarkable inertia in the policy arena.[57,60] We have identified key areas for future research, but in addition to the continued pursuit of high-quality evidence to guide future decision-making, we encourage researchers and clinicians to engage in evidence-based advocacy for improving the health of ex-prisoners. We have offered some arguments that may assist in this endeavor. ■

About the Authors

Stuart A. Kinner is with the Melbourne School of Population and Global Health, University of Melbourne, VIC, Australia, and the School of Medicine, University of Queensland, Brisbane, Australia. Emily A. Wang is with the Section of General Internal Medicine, Department of Medicine, Yale University, New Haven, CT.

Correspondence should be sent to: Stuart A. Kinner, Melbourne School of Population and Global Health, University of Melbourne, 207 Bouverie Street, Carlton VIC 3010 Australia (e-mail: s.kinner@unimelb.edu.au).

Reprints can be ordered at http://www.ajph.org by clicking the "Reprints" link.

This commentary was accepted January 10, 2014.

Contributors

S. A. Kinner conceptualized the article and wrote the first draft. E. A. Wang contributed to subsequent drafts and both authors approved the final version.

Acknowledgments

S. A. Kinner is supported by a Career Development Award from the Australian National Health and Medical Research Council (#1004765). E. A. Wang is supported by a Career Development Award from the National Institutes of Health/National Heart, Lung and Blood Institute (K23 HL103720).

References

1. Walmsley R. *World Prison Population List.* 9th ed. London, UK: International Centre for Prison Studies, Kings College; 2011.

2. *Prevention of Spread of HIV Amongst Vulnerable Groups in South Asia.* New Delhi, India: United Nations Office on Drugs and Crime, Regional Office for South Asia; 2008.

3. Drucker E. *A Plague of Prisons: The Epidemiology of Mass Incarceration in America.* New York, NY: New Press; 2011.

4. Prins SJ. Does transinstitutionalization explain the overrepresentation of people with serious mental illnesses in the criminal justice system? *Community Ment Health J.* 2011;47(6):716–722.

5. Minton TD. *Jail Inmates at Midyear 2012–Statistical Tables.* Washington, DC: US Bureau of Justice Statistics; 2013.

6. Carson EA, Sabol WJ. *Prisoners in 2011.* Washington, DC: US Bureau of Justice Statistics; 2012.

7. Pew Center on the States. *Time Served: The High Cost, Low Return of Longer Prison Terms.* Washington, DC: The Pew Center on the States; 2012.

8. Fazel S, Baillargeon J. The health of prisoners. *Lancet.* 2011;377(9769):956–965.

9. Kinner SA, Jenkinson R, Gouillou M, Milloy M-J. High-risk drug-use practices among a large sample of Australian prisoners. *Drug Alcohol Depend.* 2012;126(1-2):156–160.

10. Douglas N, Plugge E, Fitzpatrick R. The impact of imprisonment on health: what do women prisoners say? *J Epidemiol Community Health.* 2009;63(9):749–754.

11. Levy M. Health services for prisoners. *BMJ.* 2011;342:d351.

12. Feron JM, Paulus D, Tonglet R, Lorant V, Pestiaux D. Substantial use of primary health care by prisoners: epidemiological description and possible explanations. *J Epidemiol Community Health.* 2005;59(8):651–655.

13. Springer SA, Pesanti E, Hodges J, Macura T, Doros G, Altice FL. Effectiveness of antiretroviral therapy among HIV-infected prisoners: reincarceration and the lack of sustained benefit after release to the community. *Clin Infect Dis.* 2004;38(12):1754–1760.

14. Kerr T, Fairbairn N, Tyndall M, et al. Predictors of non-fatal overdose among a cohort of polysubstance-using injection drug users. *Drug Alcohol Depend.* 2007;87(1):39–45.

15. Kinner SA, Milloy M-J, Wood E, Qi J, Zhang R, Kerr T. Incidence and risk factors for non-fatal overdose among a cohort of recently incarcerated illicit drug users. *Addict Behav.* 2012;37(6):691–696.

16. Alan J, Burmas M, Preen D, Pfaff J. Inpatient hospital use in the first year after release from prison: a Western Australian population-based record linkage study. *Aust N Z J Public Health.* 2011;35(3):264–269.

17. Wang EA, Wang Y, Krumholz HM. A high risk of hospitalization following release from correctional facilities in Medicare beneficiaries: a retrospective matched cohort study, 2002 to 2010. *JAMA Intern Med.* 2013; 173(17):1621–1628.

18. Kinner SA, Forsyth S, Williams GM. Systematic review of record linkage studies of mortality in ex-prisoners: why (good) methods matter. *Addiction.* 2013;108(1):38–49.

19. Merrall ELC, Kariminia A, Binswanger IA, et al. Meta-analysis of drug-related deaths soon after release from prison. *Addiction.* 2010;105(9):1545–1554.

20. Freudenberg N, Daniels J, Crum M, Perkins T, Richie BE. Coming home from jail: the social and health consequences of community reentry for women, male adolescents, and their families and communities. *Am J Public Health.* 2005;95(10):1725–1736.

21. Wang EA, Hong CS, Shavit S, Sanders R, Kessell E, Kushel MB. Engaging individuals recently released from prison into primary care: a randomized trial. *Am J Public Health.* 2012;102(9):e22–e29.

22. United Nations. Basic Principles for the Treatment of Prisoners. Available at: http://www.un.org/documents/ga/res/45/a45r111.htm. Accessed May 16, 2014.

23. Lines R. From equivalence of standards to equivalence of objectives: the entitlement of prisoners to health care standards higher than those outside prisons. *Int J Prison Health.* 2006;2(4):269–280.

24. Kinner SA, Burford BJ, van Dooren K, Gill C, Gallagher C. Service brokerage interventions to improve health outcomes in ex-prisoners (protocol). *Cochrane Database Syst Rev.* 2013;(2):CD010343. doi: 10.1002/14651858.CD010343.

25. Cutcher Z, Degenhardt L, Alati R, Kinner SA. Health and social outcomes for ex-prisoners with a history of mental disorder: a longitudinal study. *Aust N Z J Public Health.* In press.

26. Hammett TM, Harmon MP, Rhodes W. The burden of infectious disease among inmates of and releases from US correctional facilities, 1997. *Am J Public Health.* 2002;92(11):1789–1794.

27. Dolan K, Kite B, Black E, Aceijas C, Stimson GV. Reference group on HIV AIDS prevention and care among injecting drug users in developing and transitional countries. HIV in prison in low-income and middle-income countries. *Lancet Infect Dis.* 2007;7(1):32–41.

28. Macalino GE, Hou JC, Kumar MS, Taylor LE, Sumantera IG, Rich JD. Hepatitis C infection and incarcerated populations. *Int J Drug Policy.* 2004;15(2):103–114.

29. Westergaard RP, Spaulding AC, Flanigan TP. HIV among persons incarcerated in the USA: a review of evolving concepts in testing, treatment, and linkage to community care. *Curr Opin Infect Dis.* 2013;26(1):10–16.

30. Khan MR, Behrend L, Adimora AA, Weir SS, White BL, Wohl DA. Dissolution of primary intimate relationships during incarceration and implications for post-release HIV transmission. *J Urban Health.* 2011;88(2):365–375.

31. Milloy MJ, Kerr T, Buxton J, et al. Dose-response effect of incarceration events on nonadherence to HIV antiretroviral therapy among injection drug users. *J Infect Dis.* 2011;203(9):1215–1221.

32. Small W, Wood E, Betteridge G, Montaner J, Kerr T. The impact of incarceration upon adherence to HIV treatment among HIV-positive injection drug users: a qualitative study. *AIDS Care.* 2009;21(6):708–714.

33. Springer SA, Azar MM, Altice FL. HIV, alcohol dependence, and the criminal justice system: a review and call for evidence-based treatment for released prisoners. *Am J Drug Alcohol Abuse.* 2011;37(1):12–21.

34. Milloy M-JS, Buxton J, Wood E, Li K, Montaner JSG, Kerr T. Elevated HIV risk behaviour among recently incarcerated injection drug users in a Canadian

setting: a longitudinal analysis. *BMC Public Health.* 2009;9:156.

35. MacGowan RJ, Margolis AD, Gaiter J, et al. Predictors of risky sex of young men after release from prison. *Int J STD AIDS.* 2003;14:519–523.

36. Wolitski RJ, Project START Writing Group for the Project START Study Group. Relative efficacy of a multisession sexual risk–reduction intervention for young men released from prisons in 4 states. *Am J Public Health.* 2006;96 (10):1854–1861.

37. White MC, Tulsky JP, Goldenson J, Portillo CJ, Kawamura M, Menendez E. Randomized controlled trial of interventions to improve follow-up for latent tuberculosis infection after release from jail. *Arch Intern Med.* 2002;162(9): 1044–1050.

38. Herbert K, Plugge E, Foster C, Doll H. Prevalence of risk factors for non-communicable diseases in prison populations worldwide: a systematic review. *Lancet.* 2012;379(9830):1975–1982.

39. Binswanger IA, Krueger PM, Steiner JF. Prevalence of chronic medical conditions among jail and prison inmates in the USA compared with the general population. *J Epidemiol Community Health.* 2009;63(11):912–919.

40. Wilper AP, Woolhandler S, Boyd JW, et al. The health and health care of US prisoners: results of a nationwide survey. *Am J Public Health.* 2009;99(4):666–672.

41. Wang EA, Pletcher M, Lin F, et al. Incarceration, incident hypertension, and access to health care: findings from the coronary artery risk development in young adults (cardia) study. *Arch Intern Med.* 2009;169(7):687–693.

42. Fazel S, Danesh J. Serious mental disorder in 23 000 prisoners: a systematic review of 62 surveys. *Lancet.* 2002;359(9306):545–550.

43. Heffernan EB, Andersen K, McGrath J, Dev A, Kinner SA. Mental illness is highly prevalent among Aboriginal and Torres Strait Islander people in custody. *Med J Aust.* 2012;197(1):37–41.

44. Butler T, Allnutt S, Yang B. Mentally ill prisoners in Australia have poor physical health. *Int J Prison Health.* 2007;3 (2):99–110.

45. WHO. Trencin statement on prisons and mental health. Copenhagen: World Health Organisation, Regional Office for Europe; 2008. Available at: http://www.euro.who.int/document/e91402.pdf. Accessed April 24, 2014.

46. Quilty S, Levy MH, Howard K, Barratt A, Butler T. Children of prisoners: a growing public health problem. *Aust N Z J Public Health.* 2004;28(4):339–343.

47. Wildeman C, Western B. Incarceration in fragile families. *Future Child.* 2010;20(2):157–177.

48. Arditti JA, Lambert-Shute J, Joest K. Saturday morning at the jail: implications of incarceration for families and children. *Family Relations.* 2003;52(3):195–204.

49. Hagan J, Dinovitzer R. Collateral consequences of imprisonment for children, communities, and prisoners. *Crime Justice.* 1999;26:121–162.

50. Hayatbakhsh MR, Kinner SA, Jamrozik K, Najman JM, Mamun AA. Maternal partner arrest or incarceration, and use of cannabis in young adulthood: a prospective study. *Aust N Z J Psychiatry.* 2007;41(6):546–553.

51. Kinner SA, Alati R, Najman JM, Williams GM. Does paternal arrest and imprisonment lead to child behaviour problems and substance use? A longitudinal analysis. *J Child Psychol Psychiatry.* 2007;48(11):1148–1156.

52. Lopoo LM, Western B. Incarceration and the formation and stability of marital unions. *J Marriage Fam.* 2005;67(3): 721–734.

53. Dowden C, Brown SL. The role of substance abuse factors in predicting recidivism: a meta-analysis. *Psychol Crime Law.* 2002;8(3):243–264.

54. Gendreau P, Little T, Goggin C. A meta-analysis of the predictors of adult offender recidivism: what works! *Criminology.* 1996;34(4):575–607.

55. Bonta J, Law M, Hanson K. The prediction of criminal and violent recidivism among mentally disordered offenders: a meta-analysis. *Psychol Bull.* 1998;123(2):123–142.

56. Fazel S, Gulati G, Linsell L, Geddes JR, Grann M. Schizophrenia and violence: systematic review and meta-analysis. *PLoS Med.* 2009;6(8):e1000120.

57. Fu JJ, Herme M, Wickersham JA, et al. Understanding the revolving door: individual and structural-level predictors of recidivism among individuals with HIV leaving jail. *AIDS Behav.* 2013;17(suppl 2):S145–155.

58. Cuellar AE, Cheema J. As roughly 700,000 prisoners are released annually, about half will gain health coverage and care under federal laws. *Health Aff (Millwood).* 2012;31(5):931–938.

59. Petersilia J. What works in prisoner reentry? Reviewing and questioning the evidence. *Fed Probat.* 2004;68(2):4–8.

60. Baer D, Bhati A, Brooks L, et al. *Understanding the Challenges of Prisoner Reentry: Research Findings From the Urban Institute's Prisoner Reentry Portfolio.* Washington, DC: Urban Institute Justice Policy Center; 2006.