implemented. If training portrays PWID primarily as a source of occupational safety risk, as opposed to members of the community who deserve dignity, respect, and protection, it may have little or no effect on the many other potentially negative ways in which police interactions may harm PWID.

In fact, such an approach may serve to reinforce existing stigma against those individuals, particularly against the backdrop of a "war on drugs" mindset in which some drugs and the individuals who use them are viewed not primarily as people with unmet needs but rather as criminals who deserve judicial (and, in some cases, extrajudicial) punishment. Focusing on benefits to officers without also highlighting benefits to PWID may also discourage officers from supporting interventions that do not have a clear benefit to the officers themselves, such as evidence-based treatment, low-threshold naloxone distribution, and drug decriminalization.

OPPORTUNITIES AND NEXT STEPS

In addition to providing valuable information on modalities of training that may be more effective in changing officer attitudes, the Arredondo et al. study highlights the importance not only of improving the initial training that officers receive—it should be scandalous that, in a department described as one of the most professional and highest paid in the country, nearly half of all officers reported ignorance of the syringe law—but also of recruiting a more diverse workforce. In that study, similar to research conducted in the United States, female officers proved more receptive to evidence-based training than their male counterparts, which argues for a concerted effort to recruit and retain such officers.[5]

Perhaps more importantly, the Arredondo et al. study can serve as a reminder that although training designed to improve police interactions with PWID is both laudable and necessary, care must be taken to ensure that it is undertaken in a way that reduces, rather than perpetuates, existing anti-PWID bias. Researchers and others working with PWID must scrupulously guard against potential unintended consequences and ensure that any police training is conducted in a manner that portrays PWID as individuals who are as deserving as and perhaps more in need of protection than other members of the community. Also, such training must value the health and safety of PWID on a par with that of the officers being trained. AJPH

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CONFLICTS OF INTEREST

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REFERENCES

1. Miller CL, Firestone M, Ramos R, et al. Injecting drug users' experiences of policing practices in two Mexican–US border cities: public health perspectives. *Int J Drug Policy*. 2008;19(4):324–331.

2. Jürgens R, Csete J, Amon JJ, Baral S, Beyrer C. People who use drugs, HIV, and human rights. *Lancet*. 2010;376(9739):475–485.

3. DeBeck K, Cheng T, Montaner JS, et al. HIV and the criminalisation of drug use among people who inject drugs: a systematic review. *Lancet HIV*. 2017;4(8):e357–e374.

4. Davis CS, Burris S, Kraut-Becher J, Lynch KG, Metzger D. Effects of an intensive street-level police intervention on syringe exchange program use in Philadelphia, PA. *Am J Public Health*. 2005;95(2):233–236.

5. Davis CS, Johnston J, de Saxe Zerden L, Clark K, Castillo T, Childs R. Attitudes of North Carolina law enforcement officers toward syringe decriminalization. *Drug Alcohol Depend*. 2014;144:265–269.

6. Beletsky L, Macalino GE, Burris S. Attitudes of police officers towards syringe access, occupational needle-sticks, and drug use: a qualitative study of one city police department in the United States. *Int J Drug Policy*. 2005;16(4):267–274.

7. Davis CS, Beletsky L. Bundling occupational safety with harm reduction information as a feasible method for improving police receptiveness to syringe access programs: evidence from three US cities. *Harm Reduct J*. 2009;6(1):16.

Alcohol Deregulation: Considering the Hidden Costs

See also Myran et al., p. 899.

Excessive alcohol consumption remains a leading cause of public health harm, but there are some evidence-based approaches for prevention. The Community Preventive Services Task Force systematic review has recommended several effective policies for preventing excessive alcohol consumption, including limiting alcohol outlet density and hours or days of sale and countering efforts to privatize alcohol sales (i.e., recommending against privatization of government-controlled distribution systems), on the basis of evidence of their influence on per capita alcohol consumption, excessive consumption, and related harms.[1]

RECENT ALCOHOL DEREGULATION POLICIES

In contrast to public health recommendations, during recent years some government entities have acted to deregulate or relax restrictions on alcohol distribution and sales. In 2015, the province of Ontario, Canada, partially deregulated the government-controlled alcohol distribution system and began to allow beer and wine sales through licensed grocery stores.

In the United States, Washington State voters passed Initiative 1183, which privatized liquor sales in the state. Before this change, the state controlled what liquor products were sold, where, and when, and it issued standardized prices statewide. Implementation of Initiative 1183 on June 1, 2012, closed state-controlled liquor stores, allowed stores in the private sector to begin selling liquor (e.g., vodka, rum, whiskey), and

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removed bans on spirits advertising in stores, uniform pricing, and bans on quantity discounts.

More states are contemplating privatization of alcohol sales. For example, in 2014 and 2016, petitions were initiated in Oregon for voter initiatives on the privatization of liquor sales.

EFFECTS OF DEREGULATION

In Ontario, as anticipated, the total number of alcohol outlets increased following deregulation, but what may have been unexpected were findings from Myran et al. (p. 899), in this issue of *AJPH*, showing that the increase in availability of outlets and hours of sale was greatest in low socioeconomic status (SES) neighborhoods. The study conceptualized SES using an established multidimensional index measure that included residential instability, material deprivation, government dependency, and ethnic concentration, and it controlled for urbanicity. Findings were robust when tested using multiple iterations of outlet density measures.

Similarly, after Washington's change in alcohol law, there were increases in hard liquor sales outlets: more than four times as many off-premise outlets were selling liquor statewide—more than 1400 outlets after privatization, in comparison with 328 state-controlled outlets before privatization—and allowed up to double the weekly total hours of sale, from 73 in most state-controlled stores to a maximum of 140 in private stores.[2]

Although the Ontario study did not examine changes in behaviors or public health outcomes following deregulation, some data are available to describe population-level outcomes following deregulation in Washington State. The total volume of hard liquor sold in the state increased in the two years after privatization by about 6.5%, and per liter prices increased by about 8.0%.[2] During the same period, the state's Behavioral Risk Factor Surveillance System indicated that the prevalence of adult alcohol drinking increased modestly, including hard liquor–specific drinking (e.g., 59% of men and 51% of women reported drinking liquor in the past 30 days in January through May 2014, compared with 50% and 44%, respectively, in January through May 2012).[3]

Although Washington's school-based youth survey indicated that the prevalence of youth alcohol use and binge drinking in all grades declined after privatization, continuing a trend from the immediately previous years, general population prevalence measures may have masked changes in risky drinking patterns among youths who drink. During the two years following privatization, there were increases in alcohol-related emergency department visits, single-vehicle nighttime traffic crashes (a proxy for alcohol-impaired driving), and alcohol dependence treatment among youths.[3] Notably, the observed public health outcomes could have been worse without the associated increase in liquor price following privatization.

DEREGULATION POLICY DECISIONS

Full consideration should be given to health impacts that may be associated with alcohol deregulation. In Washington, public discussion on the initiative included anticipation of large revenue gains and concerns that youths would have easier access to alcohol. Importantly, the initiative did not fully address downstream consequences of increasing alcohol access, incorporating youth access prevention in a limited way by restricting liquor sales to larger-sized stores (e.g., not gas stations or convenience stores), and increasing penalties for selling liquor to minors. The fiscal impact statement for the initiative that was included in the Washington State voters' pamphlet discussed estimated net revenue increases between $216 and $253 million to the state general fund and $186 to $227 million to local governments over six fiscal years; the fiscal impact statement did not address any potential social or health consequences and their costs.[4]

Following implementation, revenues were in fact generated as predicted, but so were some social and health costs that could also have been predicted on the basis of the evidence about policy environments and their effects on excessive alcohol consumption.[1] These costs were borne not only by the state in terms of publicly funded or private services (e.g., health care, law enforcement) but also by families and communities.

Impacts on health equity should also be anticipated. Alcohol-attributable diseases disproportionately affect people of lower SES, despite similar or lower patterns of consumption than higher SES groups.[5] Findings from Ontario suggest that deregulation could exacerbate health disparities because low SES neighborhoods were more affected by increases in alcohol outlets and their hours of operation. Myran et al. note that greater alcohol outlet presence in neighborhoods may affect consumption behaviors by making alcohol easier to access, decreasing price, and increasing marketing and promotion. Although observations in Washington were not disaggregated by SES, it is possible that there were differential effects by community type. For those working to achieve health equity and minimize health burdens among vulnerable populations, consideration must be given to how deregulation will influence health disparities.

Further, the public should be fully informed about the potential benefits and costs of any change. Washington State residents may have been dissatisfied with the effects of privatization that they personally experienced. A study conducted in 2014 (two years after privatization) asked Washington State voters whether they would change their original vote on Initiative 1183, having observed the results.[6] One in five (20%) people who had voted "yes" said they would change their vote to "no" after seeing the outcomes of privatization; by contrast, only four percent of people who voted "no" would have changed their vote to "yes." This proportion might have been large enough to alter election results, suggesting state-level "buyer's remorse." Although the detailed reasons behind a change of mind were not assessed, they may have been related to some of the effects that were not fully considered or predicted before voters made their decision, such as the increased visibility of liquor, influences on behaviors and outcomes, and changes in price.

CONCLUSIONS

As government entities contemplate proposals to privatize or otherwise relax alcohol

regulations, understanding the potential public health consequences of these choices is critical. Deregulation that increases where and when people can buy alcohol may offer benefits in generating revenue and convenience for customers. However, evidence also indicates there will be costs in public health harms, potentially disproportionately borne by vulnerable populations. Responsible consideration of any such policy actions should include a thorough accounting of these potential costs and assessment of the net public value. AJPH

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REFERENCES

1. Community Guide to Preventive Services Task Force. The community guide: CPSTF findings for excessive alcohol consumption. Available at: https://www.thecommunityguide.org/content/task-force-findings-excessive-alcohol-consumption. Accessed March 14, 2019.

2. Washington State Office of Financial Management, Forecasting and Research Division. Washington State privatization of liquor: the impact of Initiative 1183. 2015. Available at: https://www.ofm.wa.gov/sites/default/files/public/legacy/fiscal/pdf/liquor_privatization_initiative1183.pdf. Accessed March 14, 2019

3. Dilley JA. Impact of Washington State Initiative 1183: alcohol system deregulation. Paper presented at Alcohol Policy 17 National Conference. Washington, DC; April 6, 2016.

4. Office of the Secretary of State. State of Washington. Voters' pamphlet. November 8, 2011. General election. Available at: https://www.sos.wa.gov/_assets/elections/voters'%20pamphlet%202011.pdf. Accessed March 14, 2019.

5. Collins SE. Associations between socioeconomic factors and alcohol outcomes. *Alcohol Res*. 2016;38(1):83–94.

6. Subbaraman MS, Kerr WC. Opinions on the privatization of distilled-spirits sales in Washington State: did voters change their minds? *J Stud Alcohol Drugs*. 2016; 77(4):568–576.

Socioeconomic Status, Principles, and Pragmatism: A Public Health of Consequence, June 2019

See also Myran et al., p. 899., and de Boer et al., p. 927.

In 1995, Link and Phelan developed their theory of fundamental causes of health.[1] The theory aimed to explain why the link between socioeconomic status (SES) and health inequalities persist over time. To do so, the fundamental cause theory suggests that SES embodies a range of resources, including money, power, knowledge, prestige, and positive social connections, that generate health and that SES always has and always will do this as long as health is patterned on social and economic conditions. This explains why, for example, obesity was once associated with higher SES (when access to food was limited and eating more was a sign of affluence), whereas now it is associated with lower SES (because of the capacity of those with more resources to purchase healthier food).

Fundamental cause theory plays an important and central role in understanding the production of population health. At core, it positions economic inequalities as a foundational force that shapes a whole range of other opportunities and behaviors that then influence health. It also provides an elegant explanation for what is perhaps the most robust observation in all of population health: the association between resources and health, wherein those with more resources live longer and healthier lives.

THE FUNDAMENTAL CAUSE PARADOX

Fundamental cause theory presents a challenge of scale and perspective to anyone who is concerned with population health. Considering the centrality of foundational causes to the production of health, how much of our effort should be devoted to tackling foundational economic inequalities to promote health versus the more proximal causes, the behaviors and exposures that directly influence health?

Two articles in this issue of *AJPH* add to the literature about the central role that SES plays in shaping population health and push us to consider this question anew.

First, Myran et al. (p. 899) investigated the association between neighborhood SES and alcohol availability before and after the 2015 deregulation of the alcohol market in Ontario, Canada. This analysis found, perhaps unsurprisingly, that following deregulation, the number of alcohol outlets in Ontario increased. Even more so, however, low neighborhood SES was positively associated with increased alcohol access: lower SES neighborhoods had more alcohol outlets within 1000 meters. This greater access to alcohol in low SES neighborhoods then set the stage for greater alcohol harms in these neighborhoods and, one expects, widening health inequities between low and high SES groups.

Second, de Boer et al. (p. 927) assessed inequalities in health care costs in the Netherlands across neighborhood SES. They found a gradient in health care costs that was inversely associated with neighborhood SES. That is, the neighborhoods with the lowest SES had the highest health care costs. They calculated that health care costs would drop by 7.3% if all neighborhoods had the SES of the most affluent neighborhood, with the highest potential for reduction in costs among women aged 14 to 60 years.

At the most basic level, the articles by Myran et al. and de Boer et al. add analyses that further make the case for the

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