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The Iron Fist in the Latex Glove: The Intersection of Public Health and Criminal Justice

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Abstract The intersection of public health and criminal justice involves reducing negative human outcomes, disease and crime, respectively. In this article, we examine the public health approach in detail and how it relates to criminal justice research and practice and how each discipline achieves legitimacy. We demonstrate the public duties of the criminal justice system and how it already performs some public health duties and how we can better integrate public health approaches at the academic, bureaucratic, and street levels.

Keywords Public health · Criminal justice · Epidemiology · Social control · Legitimacy · Prevention · Intervention

Introduction

The primary essence of both criminal justice and public health, as viewed from a social science lens, is the reduction and prevention of negative human outcomes. Each has significant overlap in structure, research methods, and aims. In criminal justice, crime and its prevention and treatment are the primary outcomes. In public health, diseases, injury, and disease/injury prevention are the primary outcomes. In both fields, there are multiple sub-disciplines that delve into the nuances of the processes, structures, treatment, and outcomes. In criminal justice, we have criminology, lawmaking, police, courts, corrections and juvenile justice. In public health, we have disease prevention, sanitation, epidemiology, and disease control. But what does criminal justice have to do with public health? Given that both disciplines are about the prevention of negative human outcomes on one end and the response to negative human outcomes on the other, we will examine this intersection in close detail.

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In addition to this prevention/control association, public health and criminal justice also share some common dilemmas when it comes to definition. We all intuitively "know" what they are, but on closer examination, this knowledge is broken down in sometimes seemingly contradictory streams of knowledge and practice. At least with regard to "public health," we often find ourselves in a situation of a moveable feast, lacking specific definition. Our first task is, then, to determine exactly what we mean by public health before we begin to examine the role of criminal justice in public health and vice versa.

What is Public Health?

One commonly cited definition of public health was provided by Winslow (1920) where he described it as the art and science of disease prevention to prolong the lifespan through organized health promotion at various levels of society. Last (1987) gives a more specific definition of public health as:

> The combination of sciences, skills, values (or beliefs) directed to maintenance and improvement of health of all the people. It is a set of efforts organized by society to protect, promote, and restore the people's health through collective or social action. The programs, services and institutions of public health emphasize the prevention of disease and the health needs of the population as a whole. Public health activities change with changing technology and values, but goals remain the same—to reduce the amount of disease, premature death, and disease-produced discomfort and disability in the population. (p. 6)

More recently in the United States, the Institute of Medicine (1998) characterized public health as "what we, as a society, do collectively to assure the conditions in which people can be healthy." (p. 1). They further opined that an "impossible responsibility has been placed on America's public health agencies: to serve as stewards of the basic health needs of entire populations, but at the same time avert impending disasters and provide personal health care to those rejected by the rest of the health system" (p. 2).

Turnock (2012) has identified five "images" of public health held by many, even though the images may be quite fuzzy among those who hold them:

- Public Health: The System and Social Enterprise

  "…a broad social enterprise or system" (p. 5).

- Public Health: The Profession

  "…describes professionals and workforce whose job it is to solve certain important health problems" (p. 5).

- Public Health: The Methods (Knowledge and Techniques)

  "…a body of knowledge and techniques that can be applied to health-related problems. Here, public health is what public health does." (p. 5).

- Public Health: Governmental Services (Especially Medical Care for the Poor)

  "…the activities ascribed to governmental public health agencies. For the majority of the public, this latter image represents public health in the United States, resulting in the common view that public health primarily involves the provision of medical care to indigent populations. Since 2001, however, public health has also emerged as a front line defense against bioterrorism and other threats to personal security and safety." (p. 5).

- Public Health: The Health of the Public

  " In this image, public health is literally the health of the public, as measured in terms of health and illness in the population. (p. 5). Here, he subsumes this image under the term "population health."

Hence, in Turnock's (2012) analysis, there is no one single definition of public health. In the wide-ranging discussion of definition in his first chapter, he expands on these five images in ways that help criminal justice/criminology professionals attempting to link their own activities with those of "public health." On one major level, he explores the "broad social enterprise, more akin to a movement, that seeks to extend the benefits of current knowledge in ways that have the maximum impact on the health status of a population" (Turnock, 2012, p. 7). This effort is interdisciplinary in approach and methods, emphasizes prevention and applied problem-solving, linked to government and political decision-making, and dynamic. Its efforts are carried out by committed individuals and organizations collectively addressing what he calls "unacceptable realities that result in preventable and avoidable health and quality of life outcomes." (p. 7).

Turnock (2012) also provides coverage of "unique" aspects of public health that differentiate it from other domains of practice: "the underlying social justice philosophy; its inherently political nature; its ever-expanding agenda…; its link with government; its grounding in a broad base of biologic, physical, quantitative, social and behavioral sciences; its focus on prevention as a prime intervention strategy; and the unique bond and sense of mission that links its proponents." (p. 8–9). No doubt the reader will have little difficulty recognizing any of those "unique" attributes in the criminal justice domain.

This brief foray through the definitional issues associated with the public health enterprise brings us to one of the first similarities between public health as an academic and applied field and criminal justice in those same respects. It is difficult to achieve operational definition of what our domains are, and/or to restrict the scope of activities and/or problems we address and are expected to address.

Lacking a specific definition, the Institute of Medicine (1998) outlined the three "core functions" of public health in the United States:

- Assessment

– "…every public health agency regularly and systematically collect, assemble, analyze, and make available information on the health of the community, including statistics on health status, community health needs, and epidemiologic and other studies of health problems" (p. 7).

- Policy Development
  - "…every public health agency exercises its responsibility to serve the public interest in the development of comprehensive public health policies by promoting use of the scientific knowledge base in decision-making about public health and by leading in developing public health policy. Agencies must take a strategic approach, developed on the basis of a positive appreciation for the democratic political process" (p. 8).
- Assurance
  - "…public health agencies assure their constituents that services necessary to achieve agreed upon goals are provided, either by encouraging actions by other entities (private or public), by requiring such action through regulation, or by providing services directly.
  - …each public health agency involve key policymakers and the general public in determining a set of high-priority personal and communitywide health services that governments will guarantee to every member of the community. This guarantee should include subsidization or direct provision of high-priority personal health services for those unable to afford them" (p. 8).

The IOM report acknowledges that these core functions are affected by "popular beliefs about illness and by public views on appropriate governmental action" (p. 3). At the time the report was produced, and arguably as much or more now, it is difficult to translate these core functions into action because of varying values among the population and elected officials. They also note the impact of the diversity of governmental structure and resources across the nation that affect the ability of public health agencies to achieve these core functions.

Originally developed by the "Core Public Health Functions Steering Committee" in 1994, ten essential public health services have been identified and are now part of the *Public Health Performance Standards Program* (Centers for Disease Control and Prevention, 2010). These are:

1. Monitor health status to identify and solve community health problems.
2. Diagnose and investigate health problems and health hazards in the community.
3. Inform, educate, and empower people about health issues.
4. Mobilize community partnerships and action to identify and solve health problems.
5. Develop policies and plans that support individual and community health efforts.
6. Enforce laws and regulations that protect health and ensure safety.
7. Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8. Assure competent public and personal health care workforce.
9. Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
10. Research for new insights and innovative solutions to health problems.

The reader may note the lack of emphasis placed on the provision of direct health care services in these essential functions. This serves to differentiate public health from publicly provided healthcare in most of the United States. Other than operating a

relative handful of medical programs around the nation, direct healthcare services are a relatively small part of what public health does, though that often conflicts with the "common view" mentioned by Turnock (2012).

Hodge and Gostin (2004) have broken these core functions down further into essential characteristics of public health practice that:

- Has specific legal authorization to conduct public health activity and practice at the federal, state or local levels;
- Has a required governmental duty to protect the public's health;
- Requires oversight by a governmental public health authority (or its authorized partner) to measure accountability to the public;
- May legitimately involve persons who did not or could not provide informed consent); and,
- That public health ethics that focus on populations must still respect the dignity and rights of individuals.

Further distinguishing public health practice from academic public health research, Hodge and Gostin (2004) write: "Authorized, governmental public health officials or their agents or private sector contractors are deemed as the only persons who can conduct public health practice activities." (p. 49). These comments are made primarily in the context of those core functions that involve surveillance/monitoring (which they are contrasting with academic research).

The Overlap of Legitimacy

The above distinction between public health practice and academic public health research serves to raise an issue central to both public health and criminal justice fields—legitimacy. The IOM (1998: 4–6) report discusses the "tension" between public health professionals' use of "expert knowledge" gained from science and the political process for governmental action, i.e. law making and law enforcement. They note that professional knowledge is subject to the same processes of the political process as any other knowledge claims and oftentimes falls on deaf ears. This, they argue, limits the ability of public health professionals to fulfill their "commitment" to the public. But the legal source of that commitment, however, remains vague. Indeed, one of the leading texts on public health leadership (Rowitz, 2003: 85–86) focuses on "credibility," but does not discuss legitimacy.

In discussing the foundations of public health law making, Gostin (2000) situates the authority and legitimacy of "public health law" in the Preamble (U.S. Const. pmbl) and "General Welfare Clause" (U.S. Const. art. I, § 8) of the United States Constitution. However, the actual term health is not mentioned, only the common welfare of the people. The general welfare clause is also used to justify other federal taxation and expenditure areas beyond health. This same clause is also the source of many of the "police powers" in the broad sense, rather than in a more restrictive criminal justice sense (Crank & Langworthy, 1992; Gau & Brunson, 2010; Maguire & Mastrofski, 2000). Therefore, we would say that the "police powers" claimed by public health are more accurately access to police powers. In fact, public health's employment of "police powers" is generally dependent upon judicial intervention to

order policing agencies to enforce a public health demand where local, state, and federal statutes will give lesser or greater direct powers to public health agencies.

The Overlap of Operation

In addition to legitimacy, another area where public health and criminal justice and their subfields of epidemiology and criminology are comparable is that all three operate and have interests at the academic-, policy-, and street-levels. Criminology, unlike public health and criminal justice, is the most academically-constrained of the specialties. In the United States, at least, there are very few occupational titles that include "criminologist" outside the academic and policy-related "think tank" arenas. For public health and criminal justice there are academic programs and research programs, policy-related government and non-governmental agencies, as well as street-level activities in the two domains. At the academic level, criminology, criminal justice, epidemiology, and public health all share "core" social science research methods and analytic techniques. At the street level, particularly in corrections, the full complement of these specialty areas come together, including direct health care. We will address some of these areas of overlap below.

Beginning in the late 1980s a series of articles began to appear in the academic professional literature with statements such as: "the need to move beyond a sole reliance on the criminal justice approach to violence prevention has become increasingly clear" (Mercy & O'Carroll, 1988, p. 288). Further, Rosenberg and Mercy (1991) state:

> In the past, assaultive violence has been considered the concern of the criminal justice system alone, and control strategies have relied almost exclusively on the capabilities and resources of law enforcement, judicial, and penal institutions. These strategies, focused primarily on deterrence through punishment and imprisonment, have not succeeded in reducing homicide rates or rates of nonfatal assaults… We believe that public health with its focus on epidemiologic analysis and prevention can make a substantial contribution to reducing the enormous toll in deaths and injuries attributable to assaultive violence in this country (p. 17).

The "remedy" for this failure of deterrence was to be found in the "public health approach" to violence and injuries resulting from violent behavior.

Mercy and O'Carroll (1988) provided a four-step applied science model (seen in Table 1) described as a "public health perspective," taken from Last (1987), which outlines the differing levels of public health. By 1992, Rosenberg, O'Carroll and Powell (1992) were stating that "violence is a public health problem" and that "the problem is beyond the reach of the criminal justice system working alone." (p. 3071). They stated that "the public health approach" consisted of surveillance and epidemiologic along with proper intervention design and program evaluation that focused solely on the prevention of "a particular illness or injury." In 1993, Mercy et al. (1993) had reproduced this "public health approach" in a graphic format (there called a "model"), which has been reproduced multiple times since then (e.g., Haegerich & Dahlberg, 2011).

Table 1 Comparison of public health and criminal justice approaches to violent behavior and prevention levels

Public Health Approach (Mercy & Hammond, 1999)	**Criminal Justice Approach** (Nettler, 1984)
Surveillance: Defining the problem and collecting data.	Description: "Gauge of community well-being"
Risk factor identification: Identifying the causes	Risk assessment: Estimation of the relative risk of becoming either a victim or offender
Develop and test interventions: Evaluation research	Program evaluation: Determine whether crime prevention or control activities achieve their objectives
Implementation and effectiveness measurements: Community intervention/demonstration programs training/public awareness	Explanation: Apply casual relationships to explain differences in crime rates across time, space, and persons
Public Health Approach (Mercy & Hammond, 1999: 286)	**Criminal Justice Approach** (Brantingham & Faust, 1976: 290)
"Primary prevention strategies are designed to prevent new occurrences of disease or injury"	"Primary crime prevention identifies conditions of the physical and social environment that provide opportunities for or precipitate criminal acts…to alter those conditions so that crime cannot occur."
Secondary prevention seeks to "reduce the rate of established diseases or disorders in a population."	"Secondary crime prevention engages in early identification of potential offenders and seeks to intervene in their lives in such a way that they never commit criminal violations."
Tertiary prevention focuses "on reducing the amount of disability associated with existing diseases or injuries."	"Tertiary crime prevention deals with actual offenders and involves intervention in their lives in such a fashion that they will not commit further violations."

Adapted and modified from Table 1 in Potter & Krider, 2000.

In addition to the "scientific" approach to violence prevention provided by the public health approach/perspective, Mercy and O'Carroll (1988) opined that the public health approach has a "multidisciplinary nature… by virtue of the fact that no single discipline can possibly address all the factors that promote health and prevent disease." (p. 289).

The surprise some in the criminological and criminal justice sectors may have when encountering these assertions by primarily Centers for Disease Control and Prevention (CDC)-based writers is nicely demonstrated in a report from the Finn Institute discussing the differences between the "Ceasefire" projects in Boston and Chicago:

> Chicago's program applies what it characterizes as a public health approach to violence prevention. That is, violence is viewed as a serious health threat in the same way as polio, smallpox, and HIV/AIDS. The disease metaphor implies that the spread of violence can be interrupted. …A two-stage approach toward violence follows from this premise. First, Slutkin (note: Chicago Ceasefire program developer) observes, as you would fight tuberculosis, "find those who are most infectious and stop the transmission… The longer-term aim, like treating AIDS, is to change the behavior of the whole group so that shooting (like unsafe sex) becomes unacceptable in the peer group, even gang communities (Bonner et al., 2008, p. 1).

Dodge (2008) has pointed out some of the risks of utilizing this form of disease metaphor to frame so-called public health approaches to violent behaviors because it can limit the understanding of these behaviors in specific social contexts, for instance, legitimate uses of force by criminal justice practitioners.

There are at least two important points made by Bonner et al. (2008) that Potter and Krider (2000; see also McCall, 1993) pointed out. First, the applied science model presented by Mercy and O'Carroll (1988) differs little from the applied science models commonly encountered in academic criminology and criminal justice. Potter and Krider (2000) used Nettler's (1984) conceptual framework, but the tradition of the cyclical problem-solving approach is traced to the action research model from Lewin (1946). Second, crime prevention incorporating violence prevention had been a staple of academic criminology, criminal justice, and applied criminal justice since at least the mid-1970s.

Bonner et al. (2008) continue:

> We would note that if CeaseFire-Chicago represents the public health approach to gun violence, it does not differ dramatically from a contemporary criminal justice approach. Over the past twenty-five years, criminal justice has become more proactive and more preventative in its approach to public safety problems, more eclectic in the tactics that are designed and implemented, and more prone to partner with social service agencies and community institutions to reduce crime and disorder. The parallels between these approaches extend from strategic theory to strategic practice. Criminologists will recognize the proposition that peer influences shape the (delinquent) behavior of youth as social learning theory. Law enforcement will recognize the concentration on high-risk youth as the same strategic focus of focused deterrence initiatives (p. 1)

Thus, a third element where we might disagree with the usual presentation of the "public health model" is in the assertion that previous approaches were not "interdisciplinary." The composition of academic criminology and criminal justice programs has been interdisciplinary since the development of such programs (Siegel & Worrall, 2011). The core social science disciplines that comprise these interdisciplinary programs are the same found in most Schools of Public Health. There should be little surprise that the theories and research approaches utilized in behavioral epidemiology are essentially those encountered in Departments of Criminology and/or Criminal Justice. Even at the street-level, the blending of law enforcement, prosecution, and certainly therapeutic jurisprudence approaches has required interdisciplinary collaboration (Berman, Fox & Wold, 2004).

Specifying what is meant by a "public health" perspective, approach, or model that is unique to the field of public health should be of interest to academic criminology and criminal justice faculty. That there is a public health dimension to issues of violent crime is both unmistakable and unremarkable (e.g., MacDonald, 2000). Whether the policy-level decisions by legislators to utilize deterrence-based practices are less effective at preventing violence is an empirical question. Certainly as we move into an emphasis on "evidence-based practice" we should begin to see where the evidence from rigorous research takes us at the policy and eventually street-level practice domains. For now, without a clear difference between so-called public health

and criminal justice approaches to actual prevention or intervention programming, claiming either as "superior" or "more effective" seems premature.

There is also a tendency in the minds of many to gloss over the distinctions among applied public health and criminal justice practice; confusion between public health efforts in correctional settings and the delivery of correctional health care services to inmates and prisoners. The relationship of correctional health care services to discharge planning and either community health care and/or public health services are very often confused in both research and advocacy circles. Future research needs to draw distinctions among the roles, responsibilities, functions, and authorities of these various sectors and disciplines to discuss the relationships between the applied worlds of criminal justice, public health, and health care delivery. The same can be said of the academic disciplines of Criminal Justice and Criminology, Public Health, Nursing and Medicine. In this process we can develop a proposed agenda for Criminal Justice/Criminology and Public Health collaborative research.

The Intersection of Public Health and Criminal Justice

Given the broad definition of public health above, how can we visualize the intersections? Using the basic public health model duties that operate at the primary, secondary, and tertiary levels coupled with the constitutional duties of criminal justice agencies and actors (CDC, 2010; Lab, 2010), Table 2 highlights the major overlap amongst public health duties and criminal justice system agencies.

At the primary level, public health responses are concerned with disease prevention done through a combination of vaccinations (e.g., MMR, flu, tetanus) that immunize us against certain infectious diseases health. Additionally, prevention is also attempted by improving lifestyle choices through diet, exercise, sexual behaviors and reducing alcohol intake, smoking cessation and prevention, and diverting people from recreational drug use. Other forms of prevention involve reducing injuries from everyday activities through the enforcement of seat belt and helmet laws. Lastly, as shown above, public health has reached into prevention of assaultive violence including domestic and intimate partner violence.

At the secondary level, public health responses involve the epidemiology of communicable and other diseases by trying to identify the source of disease, measuring exposure and limiting the spread of infection or exposure. Additionally, public health identifies applicable laws that deal with air, water, and food safety violations and can quarantine people identified as a threat to community health.

Lastly, at the tertiary level, public health involves itself with the provision of medical care for certain chronic, acute and infectious diseases along with mental health treatment and therapy for individuals with communicable and infectious diseases.

As Table 2 shows, adult incarceration (i.e., jails, prisons, and inpatient treatment facilities)) and juvenile justice (i.e., detention, commitment, and treatment facilities) bear the majority of overlap at the primary, secondary, and tertiary levels of public health. At the primary level, the need to control and prevent disease in institutions, deliver nutritious meals, and maximize safety of those housed in these institutions is derived from the 8th Amendment right (U.S. Const. amend. XIII; *Estelle v. Gamble*, 1976). Additionally, institutional safety precludes the use of alcohol, tobacco, and

Table 2 The intersection of public health responsibilities with the criminal justice system

Level	Responsibility	Type	Adult Incarceration	Adult Field	Law Enforcement	Criminal Judicial	Juvenile Field	Juvenile Incarceration
Primary	Disease Prevention	Vaccination	**Some**	None	None	None	None	**Yes**
		Diet	**Yes**	None	None	None	None	**Yes**
		Exercise	**Some**	None	None	None	None	**Some**
		Alcohol Use	**Yes**	**Yes**	**Some**	**Some**	**Yes**	**Yes**
		Tobacco Use	**Yes**	None	**Some**	**Some**	**Yes**	**Yes**
		Drug Use	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
		Sexual	**Yes**	None	None	None	**Some**	**Yes**
		Injury	**Yes**	**Some**	**Yes**	**Some**	**Some**	**Yes**
		Violence	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**
	Sanitation	Water	**Yes**	None	**Some**	None	None	**Yes**
		Air	**Yes**	None	**Some**	None	None	**Yes**
		Food	**Yes**	None	**Some**	None	None	**Yes**
Secondary	Epidemiology	Outbreak	**Yes**	None	None	None	None	**Yes**
		Exposure	**Yes**	None	None	None	None	**Yes**
	Response to Outbreaks	Food	**Yes**	None	**Some**	None	None	**Yes**
		Water	**Yes**	None	**Some**	None	None	**Yes**
		Air	**Yes**	None	**Some**	None	None	**Yes**
		Quarantine	**Yes**	**Some**	**Some**	**Some**	**Some**	**Yes**
Tertiary	Medical	Chronic	**Yes**	None	None	**Some**	**Some**	**Yes**
		Acute	**Yes**	None	**Yes**	None	**Some**	**Yes**
		Infectious	**Yes**	None	None	None	**Some**	**Yes**
	Mental Health	Therapy	**Yes**	**Yes**	None	**Some**	**Yes**	**Yes**
		Drug	**Yes**	**Yes**	None	**Some**	**Yes**	**Yes**

"Yes" indicates that the type is fully required by state and federal laws/regulations

"Some" indicates that the type has some requirement by state and federal laws/regulations

"None" indicates that the type has no requirement by state and federal laws/regulations

recreational drugs and 8th Amendment duties heighten the need for preventing and controlling sexual behaviors such as those proscribed by the *Prison Rape Elimination Act* (2003) and other assaultive violence in these facilities. Moreover, at the secondary level, the epidemiology and control of outbreaks is necessary for institutional control and safety, and delivery of healthcare in the tertiary level in institutions is constitutionally mandated.

The juvenile justice field (e.g., probation, community supervision) has the next major amount of public health duties, but these are related to preventing juveniles from using recreational drugs, tobacco, and alcohol and are not engaging in certain sexual behaviors. They have some duties to ensure that supervised youth are safe and limit the potential for injury and violence by making sure that parents or guardians are taking the necessary steps to aid in this endeavor. However, unless acting as a guardian, vaccinations, diet, and exercise are not the responsibility of juvenile field operations.

At the secondary level, the juvenile field has even less responsibility, where they are only involved if supervised youth need to be quarantined. At the tertiary level, they have some responsibility to ensure that youth are getting the adequate medical care by making sure parents and guardians are performing their responsibilities. However, the main tertiary level juvenile field is involved with is making sure that youth adhere to court-ordered mental health treatment.

Law enforcement's primary public health duties include preventing crime through various crime control responses including criminal drug use, assaultive violence and concomitant injury. Additionally, enforcement of traffic laws regarding seat belts, helmets, DUI, speed limits, and vehicle operations are used to aid in the reduction and prevention of injuries from vehicle accidents. And while police have some responsibility for enforcing alcohol and tobacco laws that are related to order maintenance and

enforcement of where, when, and who can consume them, they have no purview over legal consumption of such products. Police have also made forays into preventive care by establishing such drug and gang programs within schools such as D.A.R.E. (2012) and G.R.E.A.T (2012), although the effectiveness of these programs has been questioned (Lilienfeld, 2007). Lastly, police enforce sanitation through a variety of local, state, and federal laws which control food, water, and air contamination.

At the secondary level, police provide public health with its ability to enforce public health laws regarding outbreaks of infectious disease and assist in quarantining. At the tertiary level police often act as first responders for acute illnesses and are tasked with getting the appropriate medical care. They also encounter mentally ill people and while there have been some attempts at diverting these folks to appropriate care such as intended by Crisis Intervention Teams (Compton et al. 2008), but there is no constitutionally mandated duty to do so.

Adult field supervision (e.g., probation and parole) has some public health responsibilities at the primary level, but these involve enforcement of offender supervision standards regarding the use of alcohol and illicit drugs. They also have some duties in preventing injury and violence by controlling offender behavior and exposure to risk. At the secondary level, adult field supervision has limited responsibilities, mostly involving the quarantining of offenders with communicable infectious diseases. Lastly, at the tertiary level, adult field enforces court-ordered mental health treatment.Finally, criminal courts are involved with public health primary level by sentencing those who violate public health and public health-related criminal laws such as DUI, seat belt, illicit drug use, alcohol violations, some civil code violations, and traffic laws. At the secondary level, courts may be involved with quarantining individuals and at the tertiary level, they can mandate health and mental health treatment that is related to an offender's crime in efforts to reduce the risk of reoffense.

Conclusion

As we have demonstrated here, the public health duties of our criminal justice system are limited by constitutional law and federal, state, county, and municipal statutes. Which brings us to the main question: How should public health and criminal justice intersect? The integration of public health, criminology, and criminal justice at the academic level seems fairly straightforward. In fact, we could argue that the overlap among various researchers and theorists in public health programs demonstrates that it has already happened. The developing Epidemiological Criminology framework (e.g., Akers & Lanier, 2009; Potter & Akers, 2010; Akers, Potter & Hill, 2012) is further evidence of formal attempts to bridge the various fields. The primary challenge remains a thoughtful, realist discussion of the roles of the various disciplinary domains in moving toward better integration at this level.

Policy- and street-level integration, as evidenced by Table 2, is already evident. Again, what is lacking is more explicit, taxonomic classification of these programs. This needs to be informed by rigorous program design and evaluation, leading to a strong evidence-base for the reliance on approaches favored by the philosophy of one group or the other. We should not be afraid to tackle the question of whether or not a

more criminal justice or public health perspective to solving a particular problem is more effective. Achieving this in what is essentially a politicized environment, as noted in the IOM report (1998), remains a key challenge.

Lastly, when exploring whether a so-called public health or criminal justice approach should be utilized to reduce a category of human suffering, let us not lose sight of the fact that both are forms of social control. Indeed, the main difference between public health and criminal justice approaches is how we achieve this social control. We deliberately omitted discussion in this article of the use of force within the criminal justice system to control behavior, but it remains an interesting difference between public health and criminal justice at all levels. In the 1970s and 1980s, the metaphor of the "iron fist in the velvet glove" was invoked to describe the less punitive, yet arguably equally restrictive controls on human behavior in the criminal justice realms. We need to continue to challenge assumptions about the control and restrictions on behaviors through the use of mechanisms generally presented as even less punitive through the utilization of health fields. For example, health promotion, fines and taxes to reduce unwanted behaviors and health outcomes, etc., are generally presented as "progressive" ways of controlling behavior, contrasted with "repressive" criminal justice practices. Whether the iron fist is equally comfortable in the (non-) latex glove as in the velvet glove remains to be seen.

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