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The Evidence Does Not Speak for Itself: The Role of Research Evidence in Shaping Policy Change for the Implementation of Publicly Funded Syringe Exchange Programs in Three US Cities

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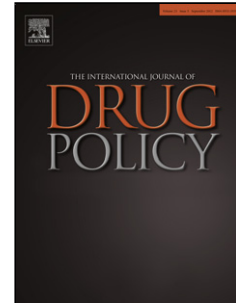
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Change for the Implementation of Publicly Funded Syringe Exchange Programs
in Three US Cities

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ABSTRACT

Background

A breadth of literature exists that explores the utilization of research evidence in policy change processes. From this work, a number of studies suggest research evidence is applied to change processes by policy change stakeholders primarily through instrumental, conceptual, and/or symbolic applications, or is not used at all. Despite the expansiveness of research on policy change processes, a deficit exists in understanding the role of research evidence during change processes related to the implementation of structural interventions for HIV prevention among injection drug users (IDU). This study examined the role of research evidence in policy change processes for the implementation of publicly funded syringe exchange services in three US cities: Baltimore, MD, Philadelphia, PA, and Washington, DC.

Methods

In-depth qualitative interviews were conducted with key stakeholders (N=29) from each of the study cities. Stakeholders were asked about the historical, social, political, and scientific contexts in their city during the policy change process. Interviews were transcribed and analyzed for common themes pertaining to applications of research evidence.

Results

In Baltimore and Philadelphia, the typological approaches (instrumental and symbolic/conceptual, respectively) to the applications of research evidence used by harm reduction proponents contributed to the momentum for securing policy change for the implementation of syringe exchange services. Applications of research evidence were less successful in DC because policymakers had differing ideas about the implications of syringe exchange program implementation and because opponents of policy change used evidence incorrectly or not at all in policy change discussions.

Conclusion

Typological applications of research evidence are useful for understanding policy change processes, but their efficacy falls short when sociopolitical factors complicate legislative processes. Advocates for harm reduction may benefit from understanding how to effectively integrate research evidence into policy change processes in ways that confront the myriad of factors that influence policy change.

Background

Public health literature suggests that policies should reflect consideration of research evidence; unfortunately, the manifestation of evidence in policy processes is complicated by a number of sociopolitical and structural factors that result in it not being used to the extent that it could in theory.¹⁻⁸ Policymakers may struggle to implement evidence-based policies while simultaneously addressing the priorities of their electorate. In some cases, policymakers are presented with research evidence that they cannot easily understand (e.g., information is presented using too much scientific jargon) or utilize (e.g., information is provided at a time when opportunities for policy change are not present).^{7,9,10} Policy change related to the implementation of harm reduction strategies – such as syringe exchange programs (SEPs) -- has been especially slow moving, a fact that is not surprising given the stigmatization of injection drug users (IDU)¹¹ and the politics of drug policy.⁵ As Ritter noted, “...the politics of drug policy can be either ‘zero tolerance’ or ‘harm reduction’. For the former, drug policy signifies a moral statement by government against drug use... ...For harm reduction, government’s role is to protect society from the consequences of drug use, but not to eliminate drug use itself...”⁵

Though policymakers may have varying opinions on the merits and moral obligations of expanding services to meet the needs of IDU, there is a body of research documenting the utility and cost-effectiveness of implementing SEPs and other harm reduction services for this population. Research shows that SEPs are effective in reducing HIV incidence as well as injection-related practices that increase HIV and HCV risk.¹²⁻¹⁸ Unfortunately, legislative barriers, such as paraphernalia laws, funding restrictions, and operational restrictions, impede the widespread implementation of these programs. As the evidence of benefit continues to grow, harm reduction proponents are often puzzled as to why policies do not align with the evidence that shows the social, public health, and financial benefit of expanding such services.

In efforts to confront the health disparities among the estimated 15.9 million people who inject drugs globally,¹⁹ 86 countries have implemented SEPs.²⁰ Unfortunately, access to harm reduction services is not equal in all parts of the world and most low and middle-income countries do not implement SEPs at coverage levels necessary to stabilize and reverse HIV epidemics among IDU.²⁰ For example, although it is estimated that there are approximately 3,476,500 people (range: 2,540,000 to 4,543,500) in Eastern Europe who inject drugs,²⁰ only 10% of IDU in this region have access to SEPs.¹² Given the behavioral complexities of substance use and addiction and that the global provision of harm reduction services is suboptimal, structural level interventions, including policy reform processes that allow for the implementation of comprehensive harm reduction services, offer significant benefit for IDU. In order to secure policy reform that supports such interventions, policymakers, their constituencies, and SEP providers must overcome a number of legal barriers.

Although there is empirical evidence that SEPs do not increase substance use, crime, or the numbers of discarded syringes found in public locations (e.g., streets, parks),¹⁵⁻¹⁷ policy change discussions related to their implementation may be clouded by community stakeholder fears and concerns. These discussions may benefit from policymakers' utilization of research evidence as a means to dispel reservations about implementing syringe exchange services. Unfortunately, research evidence may be underutilized by policymakers and is subject to a range of factors that influence its utilization.¹⁻⁸ Further complicating the issue is the fact that policymakers must take into account the amount of political capital available for advancing policies and how to achieve compromise among the legislature.⁷

In light of the complexities of applying research evidence to policy change processes, it is important to determine how and in what context research evidence is used by policy stakeholders in legislative reform processes for the expansion of structural-level interventions for public health. There are a number of frameworks in the public health literature that have

been used to describe this process. Of greatest relevance to the example of harm reduction and, more specifically, syringe exchange, is the operationalization framework provided by Weiss et al, who state research evidence can be applied to the policy change process in three ways – instrumentally, conceptually, or symbolically – or not at all.²¹ These typologies, and variants of them, are frequently referenced in health policy and evaluation research.²¹⁻³²

When research evidence is applied in an instrumental manner to policy change processes, it forms the basis of decision making and gives direction to policy.²¹ However, research has found that policymakers rarely apply research evidence *exclusively* in an instrumental manner and that they view instrumental use as only one way in which research can be used in policy development;²⁵ for example, a study among professionals and managers in Canadian and provincial government agencies found that multiple applications of research evidence simultaneously played a role in the agencies.²³ The lack of exclusive instrumental application of research evidence may be explained by the fact that research must be negotiated in the contexts of other competing factors in the policy change environment and that its effectiveness is dependent on the contextual factors surrounding the legislative body, such as the willingness of policymakers to rely on evidence in policy processes.

Conceptual use of research evidence occurs indirectly when evidence diffuses into the population and, overtime, influences policy processes by changing ideas and understandings.²¹ This application of research evidence may be especially useful for understanding policy change processes related to HIV prevention for IDU due to the stigmatized nature of the population (i.e. conceptual shifts in perceptions of IDU may be required for policies to advance that are not biased by stigmatization). The importance of the conceptual understanding of a problem in policy processes was illustrated by a study that suggested methadone maintenance therapy (MMT) signified different ideas among policy change actors (e.g. MMT was viewed as a manifestation of cynicism and misanthropy or as a logical strategy to combat problems stemming from addiction).³³ In scenarios pertaining to IDU health, such as changing policies for

the implementation of SEPs, conceptual applications of research evidence may offer great value by shifting how addiction and treatment of addiction is understood among the legislature.

Symbolic use of research evidence occurs when stakeholders use evidence as a means to provide legitimization for preexisting preferences and actions.²¹ Evidence can be used to justify policies that were created based on intuition or specific personal or organizational interests.²¹ Symbolic applications of research evidence may be of notable relevance to situations where policy changes are necessary to advance the health and well-being of marginalized populations (such as IDU) or address health issues (e.g., mental illness, substance use, and addiction) that are stigmatized and/or misunderstood – and therefore not supported -- by the general constituency. In these scenarios, political leaders may apply research evidence symbolically as a means of justifying policy decisions to their constituents. According to Weiss et al, these typologies “capture much of the experience in the empirical literature and practical experience” in the role of research evidence in shaping health policies.²¹

Although existing literature has documented how policymakers access research evidence and barriers to its utilization,^{7,9,34} surprisingly little work has been done to examine how research evidence has been utilized in the United States to change Federal and state policy restrictions that impeded harm reduction services for IDU. We applied Weiss et al’s operationalizations²¹ of these typologies in our framework for understanding how research evidence was used in reform processes for the implementation of publicly funded syringe exchange programs for HIV prevention in three US cities: Baltimore, MD, Philadelphia, PA, and Washington, DC. The three study cities were selected due to the comparability of their political obstacles to the implementation of publicly funded SEPs.

In both Philadelphia and Baltimore, existing drug paraphernalia laws prevented the cities from engaging in syringe exchange; in Washington, DC, the issue surrounding implementation of syringe exchange was tied to Federal oversight of municipal funds. In Pennsylvania, state-level laws (including the Pennsylvania Drug Paraphernalia Act of 1980) criminalized the selling, distribution and possession of items considered “drug paraphernalia”.³⁵ With the passage of

Executive Order 4-92 in 1992,³⁶ Philadelphia was able to legally implement syringe exchange with no further legislative obstacles. Baltimore had a similar legislative impediment in the form of the Maryland Uniform Controlled Dangerous Substances Act, which made the possession of drug paraphernalia – including hypodermic syringes – illegal.³⁷ Similar to Pennsylvania, Maryland passed SB 402 in 1994 that legalized SEP operations.³⁸

For DC, the hurdle to SEP implementation was both legislative and financial. Since the District of Columbia is not a state, Congress must approve its municipal budgets; this process of budget approval is partly addressed in the Financial Services Appropriations Bill, which is voted on by the Senate and House Committees on Appropriations. In addition to the prohibition on the use of Federal funds for SEPs that was implemented in 1988,³⁹ the Financial Services Appropriations Bill passed by Congress in 1998 included language that prohibited the District of Columbia from using municipal revenue to support syringe exchange services.⁴⁰ This restriction remained in place until 2007, when the Financial Service Appropriations Bill governing DC's expenditures was finally passed without the rider prohibiting SEP funding.⁴¹ Despite the various legislative barriers, each of the study cities was successful in securing policy change for the implementation of publicly funded SEPs, partially through stakeholders' utilization of research evidence in the policy change processes.

We address the deficits in the literature pertaining to the role of research evidence in policy change processes for syringe access through qualitative interviews with policy change stakeholders in each study city. These interviews explored how political climates, perceptions of the HIV epidemic, and willingness to embrace harm reduction strategies merged with research evidence to achieve policy reform for SEP implementation. Examination of the interviews through the lens of typological applications of research evidence was used to understand the role of research evidence in securing policy change in each city. We hypothesized that applications of research evidence to policy change processes would be varied between the cities based on the conceptual and philosophical understandings policymakers had toward substance use and addiction, and their willingness to integrate

empirical findings into policy change processes. In examining this hypothesis, we provide insights into how research evidence may be used in a global context to secure policy change in support of harm reduction services.

Methods

The study cities (Baltimore, MD, Philadelphia, MD, and Washington, DC) were selected for this research because policy changes were required in each city before municipal funds could be utilized for SEP implementation. In each case, the research base for the effectiveness of syringe exchange for HIV prevention had already been established and policymakers and advocates in each city had access to that evidence.

Key stakeholder interviews were conducted in each city during the time period of March 2012 to August 2013. The process for identifying key stakeholders in each location was completed by conducting comprehensive searches of published and publicly available literature (including media reports, city or federal government proceedings, etc.) pertaining to syringe exchange during the time period surrounding the policy change in each city. Online searches of words related to policy change for the implementation of publicly funded syringe exchange programs (e.g. “syringe exchange policy in Baltimore”, “policy change for syringe exchange in Washington, DC”, “opponents of syringe exchange policy change in Philadelphia”, etc.) were conducted using Google. These searches included archives of print media and legislative documents appropriate to each city. Key stakeholders were also identified through respondent driven sampling in that participants were asked at the end of their interviews to identify other potential stakeholders who they thought should be interviewed. These referrals were then vetted against the historical record for verification of their role in the policy change movement and, if appropriate, contacted for engagement in the study. In order to obtain a balanced perspective of the policy change process in each city, great efforts were taken by the research team to find both proponents and opponents of syringe exchange for interviews.

Identified stakeholders were contacted by phone and e-mail, informed about the study, and asked to participate. For those agreeing to participate, appointments were made for either an in-person interview or a telephone interview (at the preference of the participant). On the date of the interview and following the administration of informed consent, participants participated in an in-depth, semi-structured qualitative interview exploring the history of needle exchange in stakeholders' respective cities, factors leading up to the policy change, how the policy change occurred, and what role research evidence had in shaping the legislative processes that led to SEP implementation.

Although the interview script was largely identical for all participants, the questions were tailored to the respective role of the study participant at the time of the policy change (e.g., policy maker, community stakeholder/advocate, etc.). Participants who had multiple roles throughout the policy change process were asked questions through the lens of all applicable roles. Each interview lasted approximately two hours and, at the completion of the interview, participants were offered \$40 as compensation for their time. All interviews were audio-recorded with the permission of the participant. Each participant was assigned a unique identifier that was used to code each interview in order to protect the participant's confidentiality.

Completed interviews were transcribed verbatim into NVivo 10 for data management and coding. Two separate qualitative data coders analyzed the transcripts for any mention of research evidence. For the purposes of this study, research evidence was defined as: (1) any mention of empirical studies related to SEPs, (2) any data that played a role in shaping/driving policy change, (3) any mention of persons using or not using research evidence, and (4) any mentions or discussions of how stakeholders employed research evidence to argue in favor or against SEP implementation. Disagreements in coding were discussed and resolved. Cohen's Kappa was used to check consistency between coders and was found to be satisfactory (Kappa = 0.83). Exemplar quotes of research evidence application in each city were then classified by the primary author according to the three typologies. This research was determined by The

George Washington University Institutional Review Board as being exempt from IRB oversight (IRB # 051106).

Results

Examination of historical records and recommendations from other participants led to the identification of stakeholders in Baltimore (N=22), Philadelphia (n=16), and DC (n=18), who played a role in the policy change processes associated with securing publicly funded SEPs in their respective cities. Five stakeholders who were identified through either the literature or through recommendations were deceased and three others could not be located. With the exception of legislative voting records, the majority of the documents reviewed did not identify specific persons who were consistently and/or publicly opposed to SEPs. Table 1 summarizes the participation rate of stakeholders in the study.

>>>INSERT TABLE 1<<<

In total, 29 key informants were interviewed (22 in person, 7 by telephone) between March 2012 and August 2013. The majority of participants self-identified their primary role in change processes as policymakers (52%) followed by 48% who identified as advocates. Overall, the majority of participants identified as Male (66%) and White/Caucasian (69%). Table 2 summarizes participant demographics and respective roles in the policy change process.

>>>INSERT TABLE 2<<<

Baltimore City Context

Many stakeholders in Baltimore described the policy change that allowed SEP implementation in relation to strong political leaders who were advocates for the application of research evidence in policy reform processes. Research evidence was described in terms of

how it was actively applied to guide policymakers in the formation of policies that supported SEP implementation and as motivation to not give up on the battle to overcome legislative hurdles. For these reasons, Baltimore primarily used research evidence in an instrumental manner to directly facilitate and guide policy change. One interviewee captured this instrumental use of research evidence as follows: *“...I think Maryland was able to ...fend off bad stuff and make policy decisions based on science.”*

Policy change detractors were described in terms of their fears about the potential consequences of SEP implementation. Consistent with the contextual factors at play in other cities during times of SEP debate, some Baltimore stakeholders argued that SEP would increase substance use and crime. In efforts to contain these fears and uncertainties, research evidence was utilized directly as a strategy to allay concerns about SEP implementation and guide policy discussions to focus on the empirical evidence of SEP efficacy. The following quotes captured this instrumental research evidence application by SEP advocates to dispel fears about syringe exchange activities:

“I think what that did was let the science drive the policy discussion rather than a lot of fear mongering...”

“...There was this AIDS Taskforce driven by the Science... ..so it was a convergence [of research evidence] at a very uncertain time.”

“...and part of it was, what’s the empirical evidence, and what, I think it was important for the mayor and the health department to say, ‘look, this is controversial, there are a lot of questions about this, let’s accumulate whatever evidence there is.’”

Though the Baltimore interviews frequently suggested that research evidence played a critical role in driving policy change for the implementation of SEPs, these descriptions primarily occurred in the contexts of their relationship with policy change supporters who were research evidence champions, i.e., persons who were advocates for the utilization of evidence in shaping policy change for the implementation of SEP services. These champions predominantly had backgrounds in the medical and public health sector and, as such, had familiarity with accessing

and interpreting scientific data. To that end, they used research evidence as a tool to dispel myths about syringe exchange among policymakers and their respective constituencies and to guide evidence-based conclusions about the implications of SEP implementation. What was critical to this effort was that these champions took the time to understand why Baltimore residents were concerned about SEP implementation and they used empirical data to address concerns and directly confront controversy: *“There were a number of questions that kept popping up, and we would provide, you know, new studies with evidence.”*

Champions also used research evidence in an instrumental manner to guide advocacy discussions with persons who had legislative authority to enact policy change. In these discussions, research evidence was used in ways that facilitated policymakers’ support of SEP implementation: *“...so it was a very tough thing for him to adopt. But he felt comfortable enough with the science...”*. With evidence guiding the decision making processes, policymakers changed legislation in favor of SEP implementation.

Philadelphia City Context

Research evidence was primarily applied symbolically and conceptually in the Philadelphia city context. Efforts to legalize SEPs in Philadelphia were largely guided by the local chapter of the AIDS Coalition to Unleash Power (ACT UP) and other community activists who, having learned about SEP efficacy from the research literature and through other harm reduction advocates, embraced the research evidence from the onset of their engagement in the policy change process. Unfortunately, grassroots efforts to legalize SEPs were hindered by politicians who were skeptical of the efficacy of needle exchange and who were concerned that it would increase crime and drug use. Study participants explained that, because activists perceived the legislative environment as unlikely to change, they felt a moral imperative to act. In doing so, they created Prevention Point Philadelphia – an underground SEP -- in 1991 and began illegal SEP operations. In this case, research evidence was used symbolically to justify the decision to begin illegal syringe exchange:

“So we had read a paper on it and we circulated it among the leadership, and we liked the methodology they had in New Haven so we said alright, we can give this a try in a more controlled way.”

“...it was very convincing that the right thing to do, at this point in time, was to make syringe exchange an intervention”

The perception that political leaders were unlikely to align their views about SEP implementation with those of advocates and the public health literature was the principal motivator for the conceptual application of research evidence to secure policy change by SEP supporters. Activists accepted that policy change may be best achieved by first changing public opinion about SEPs and then empowering constituencies to put political pressure on legislators to change policy. SEP activists worked with public health researchers to inform the community about the evidence supporting SEPs for combating HIV incidence and, in doing so, to shift people's understanding of the importance of SEPs. As community momentum for SEPs increased and activists and public health researchers continued to point to the validity of research evidence in support of SEP implementation, political leaders gave more consideration to policy change. This indirect, conceptual application of research evidence was illustrated by an interviewee who stated, *“...you educate community, then you educate constituencies that eventually pressure politicians or, or vote for politicians”*. A second example of this conceptual application of research evidence was captured by an interviewee who explained, *“Actually, one of the things we told the, uh, the organizers of the needle exchange was to put some articles out there, try to educate the community, both in English and Spanish”*.

The combination of conceptual and symbolic applications of research evidence was effective in generating the forward momentum in the general public to rally the support needed to legalize the SEP. Politicians and health officials received pressure from their constituencies to reassess their views about SEP operation; they also witnessed activists' utilization of research evidence (via symbolic applications) to legitimize the illegal SEP activities. Eventually,

applications of research evidence were successful in securing policy change that allowed for legal SEP implementation and operation in Philadelphia.

District of Columbia City Context

As a Congressionally controlled district, utilization of municipal resources in the District is decided upon by legislators who are not elected by DC residents. As such, DC may play host to political debates that end in the legislature divided along partisan lines. This was the case for implementation of SEPs in DC. As in the cases of Baltimore and Philadelphia, Congressional proponents of syringe access in DC cited the evidence in the research literature that supported the effectiveness of SEPs in addressing the HIV/AIDS epidemic:

“...the sets of studies that were coming out were very much showing that needle exchange did reduce HIV... ...we were citing data that showed that there was no increase in substance use, and that there was a decrease in HIV among people living with HIV or among them. Drug users.”

Interestingly, study participants who were SEP supporters explained that Congressional opponents of SEP implementation claimed to utilize research evidence, but that they did so in a way that enabled them to “spin” the evidence such that it would support their opposition. For example, opponents’ use of evidence was described in terms of persons citing evidence out of context, misinterpreting research findings, or selectively picking language from research articles that they thought supported their claims (*“Well, they did find words in studies that they thought supported [needle exchange increasing crime]...”*). Although this finding does not provide a balanced perspective inclusive of persons who were in opposition of SEP implementation, it is, nonetheless, a notable finding given the consistency with which it was discussed among the SEP supporters.

The DC context was further complicated by policy change detractors’ unwillingness to consider research evidence in policy change discussions. Interviews suggested this unwillingness was derived from persons’ fears about the implications of SEPs (such as they

would increase crime, illicit drug use, etc.) and based on moral ideologies. The obstinacy of policymakers who were in opposition of SEPs to consider the research evidence proved to be a significant and dominant theme in the DC context:

“...because the evidence was, whether you quoted from scientific journals...and ... statistical evidence, from what was happening across the United States, none of it mattered.”

“You have to realize that, for some of the opposition, there are not any facts that are going to win them on policy...”

“It is possibly the most crazy-making thing about this issue when we... were really...working full-tilt on it, and having [Politician] sitting over there saying, ‘I don’t care what the data say, I won’t have it’.”

The frustration stemming from this situation was particularly evident in the comment of one stakeholder, who remarked, *“...I thought, you know, that the science was there, and people would listen to the science, I don’t think that elected officials really always do that...”*.

Despite the obstacles for securing policy change in support of SEP services in DC, reform was eventually achieved following a shift in the political power structure in Congress. In 2007, the language proscribing the use of municipal revenue to support syringe exchange services was removed from the Financial Services Appropriations Bill. Following the signing of the bill by President GW Bush, the DC Government immediately allocated funds to the Department of Health for needle exchange and harm reduction services. Although research evidence played a role in the DC context for securing policy change, the votes from members of Congress who supported SEP outnumbered the votes from SEP opponents. As such, application of research evidence may not have affected the actual policy change processes in the same magnitude as it did in the Baltimore and Philadelphia city contexts.

Discussion

The application of research evidence in shaping policy to support the implementation of SEPs followed three distinct paths in Baltimore, MD, Philadelphia, PA, and Washington, DC. For Baltimore and Philadelphia, research evidence played a consistent role in driving policy change. Baltimore's process was guided by research evidence champions who employed evidence in an instrumental fashion to drive policy change. Research evidence champions in Baltimore engaged community stakeholders and policymakers in discussions that were guided by research evidence and presented the research in ways that allowed for the evidence to be easily integrated into the broader sociopolitical context and change processes in the city. In Philadelphia, policy change stakeholders applied research evidence conceptually and symbolically to generate forward momentum for policy change among the general public and to legitimize operation of an illegal SEP. The study findings for Philadelphia add to the literature surrounding conceptual applications of research evidence and the framing of public health issues by providing more support for how conceptual shifts in understanding complex public health problems are often necessary to facilitate change processes. In contrast to Baltimore and Philadelphia, research evidence played a minor role in DC because some policymakers were unwilling to consider its application in policy change discussions. The findings from DC provide further support to the literature that suggests public health efforts may manifest different meanings among policy stakeholders³³ and that policymakers may ignore research evidence completely.²¹

A recurring theme in all three cities was the idea of "data free zones", i.e., the presence of individuals opposed to SEP implementation but who had no empirical evidence to support their claims that SEPs were detrimental to society. Although this finding was derived primarily from interviews with SEP supporters, it is a notable finding given that it emerged as a theme across all of the study cities. Participants explained that the arguments made by SEP opponents were often rooted in fears of SEPs increasing drug use and undermining the War on Drugs. They elaborated that there was never any mention or evidence of empirical data that was correctly cited from the literature that supported their claims. Analyses of the interviews

suggests that opponents' rationale against harm reduction strategies was primarily focused on maintaining existing attitudes and beliefs about IDU – which included the stigmatization of HIV/AIDS and substance use/addiction -- rather than strategically addressing the HIV/AIDS epidemic with evidence-based approaches (“...*there was so much evidence... So much scientific evidence about the effectiveness of needle exchange for HIV prevention. I can't say there was any rational basis for the policy [needle exchange ban]*”). Because the majority of participants in this research were SEP supporters, future work should explore the rationale and policy change perspective of policymakers who were in opposition of SEP implementation.

Although this research was based in the context of the United States, it has implications for global harm reduction efforts. As evidenced by the policy reform processes in the three study cities, it is critically important that SEP proponents – particularly community stakeholders - have an understanding of political processes and environments, the constituency values of policymakers, and the role of advocacy in shaping policy change. Even in the face of expanding HIV epidemics, aligning these factors in support of policy reform for SEPs may take a great deal of time and effort and may only yield incremental policy changes (which may be more politically palatable and more easily secured) rather than large-scale reform. Evidence of such incrementalism for harm reduction policy change can be seen in international contexts, such as the policy changes around substance use that have occurred in Iran between the early 1980s and the present. In Iran, the approach to confronting substance use initially emphasized supply-reduction and criminalization, but evolved into the large scale implementation of harm reduction programs.⁴²⁻⁴⁴ Research evidence can be a strong driver of policy change processes, but advocates must adapt its utilization to the contextual factors at play in reform processes and set reasonable goals for reform efforts.

In each of the study cities, policy reform was partially driven by elected officials receiving pressure from their electorate to enact change; however, in countries where policymakers are appointed, this pressure may not have the same influence. In these scenarios, research evidence may be used by advocates to convince appointed policymakers that harm reduction

services, such as SEPs, are not only something the community desires but are public health interventions that make fiscal sense via prevention of infectious diseases, such as HIV and Hepatitis. This is of particular importance in countries such as Russia, where policy decisions pertaining to the scale up of harm reduction services are constrained by financial resources, lack of information about harm reduction efficacy, and the cultural acceptability of harm reduction services.⁴⁵ In scenarios such as these, research evidence may be used to educate policymakers about the public health and fiscal utility of SEPs and to guide policy reform in ways that align with data-driven public health practice. Although the provision of research evidence to policymakers never guarantees policy change, it is an important and necessary step in policy change processes for both democratic and non-democratic countries.

There were several strengths and limitations in this study that should be noted. Despite the expectation that participants would not be able to remember details of events that occurred (in some cases) two decades prior, participants had a strong recollection of the events that unfolded in their cities and of the players involved. There was strong corroboration of the historical accountings of policy change for syringe exchange implementation among interviewees. This allowed for a relatively easy recreation of the historical contexts at play in each city during the periods of policy change for SEP implementation. A further strength of this study is that of balance among participants based on their respective role in policy change processes. We are confident our research captured both the legislative perspective as well as the advocate perspective on publicly funded syringe exchange program implementation.

The greatest limitation of this study is that some stakeholders were either not able or not willing to participate in the interview. Several of the stakeholders who were identified (either through the literature review or through recommendation of other participants) were deceased or unable to be found. Other persons, primarily opponents of policy change for SEP implementation, refused participation. Although great efforts were made to find and interview opponents of policy change, their perspectives were not necessarily captured by the present

study. Despite this limitation, we feel this study provides valuable insights into the role of research evidence in policy change processes for SEP implementation.

In theory, policy reform for public health should be an objective process that is guided by the values of the electorate, empirical research evidence, and consideration for what is most feasible and has a high likelihood of success. Unfortunately, reform processes can become derailed by policymakers who fail to apply research evidence to change processes and by persons who apply empirical study findings incorrectly or out of context. As applied to HIV prevention, changing public policy to facilitate or expand the impact of structural interventions, such as SEPs, can significantly reduce HIV risk for many vulnerable populations. Advocates and community stakeholders seeking to change policies to benefit public health may be well served by better understanding the sociopolitical and contextual factors of their legislature and how research evidence can be integrated into change processes. The correct and timely utilization of research evidence can serve to build a stronger foundation for how public health issues and prevention strategies are understood among and addressed by policymakers and their constituencies.

References:

1. Hanney SR, Gonzalez-Block MA, Buxton MJ, Kogan M. The utilisation of health research in policy-making: concepts, examples and methods of assessment. *Health Res Policy Syst.* 2003;1(1):2.
2. Frenk J. Balancing relevance and excellence: organizational responses to link research with decision making. *Soc Sci Med.* 1992;35(11):1397-404.
3. Davis P, Howden-chapman P. Translating research findings into health policy. *Soc Sci Med.* 1996;43(5):865-72.
4. Trostle J, Bronfman M, Langer A. How do researchers influence decision-makers? Case studies of Mexican policies. *Health Policy Plan.* 1999;14(2):103-14.
5. Ritter A. The Role of Research Evidence in Drug Policy Development in Australia. *Croatian Political Science Review (Politička Misao).* 2011;48(5):141-156.
6. Nutley S, Walter I, Davies HTO. From Knowing to Doing: A Framework for Understanding the Evidence-into-Practice Agenda. *Evaluation.* 2003;9:125-148.
7. Brownson RC, Royer C, Ewing R, McBride TD. Researchers and policymakers: travelers in parallel universes. *Am J Prev Med.* 2006;30(2):164-72.
8. Edwards M. Social Science Research and Public Policy: Narrowing the Divide. *Australian Journal of Public Administration.* 2005;64(1):68-74.
9. Brownson RC, Chiqui JF, Stamatakis KA. Understanding evidence-based public health policy. *Am J Public Health.* 2009;99(9):1576-83.
10. McBride T, Coburn A, Mackinney C, Mueller K, Slifkin R, Wakefield M. Bridging health research and policy: effective dissemination strategies. *J Public Health Manag Pract.* 2008;14(2):150-4.
11. Ross MW, Darke S. Mad, bad and dangerous to know: dimensions and measurement of attitudes toward injecting drug users. *Drug Alcohol Depend.* 1992;30(1):71-4.
12. Palmateer N, Kimber J, Hickman M, Hutchinson S, Rhodes T, Goldberg D. Evidence for the effectiveness of sterile injecting equipment provision in preventing hepatitis C and

- human immunodeficiency virus transmission among injecting drug users: a review of reviews. *Addiction*. 2010;105(5):844-59.
13. Ksobiech K. A meta-analysis of needle sharing, lending, and borrowing behaviors of needle exchange program attenders. *AIDS Educ Prev*. 2003;15(3):257-68.
 14. Kerr T, Small W, Buchner C, et al. Syringe sharing and HIV incidence among injection drug users and increased access to sterile syringes. *Am J Public Health*. 2010;100(8):1449-53.
 15. Wodak A, Cooney A. Do needle syringe programs reduce HIV infection among injecting drug users: a comprehensive review of the international evidence. *Subst Use Misuse*. 2006;41(6-7):777-813.
 16. Wodak A, Mcleod L. The role of harm reduction in controlling HIV among injecting drug users. *AIDS*. 2008;22 Suppl 2:S81-92.
 17. Watters JK, Estilo MJ, Clark GL, Lorvick J. Syringe and needle exchange as HIV/AIDS prevention for injection drug users. *JAMA*. 1994;271(2):115-20.
 18. Gibson DR, Brand R, Anderson K, Kahn JG, Perales D, Guydish J. Two- to sixfold decreased odds of HIV risk behavior associated with use of syringe exchange. *J Acquir Immune Defic Syndr*. 2002;31(2):237-42.
 19. Mathers BM, Degenhardt L, Phillips B, et al. Global epidemiology of injecting drug use and HIV among people who inject drugs: a systematic review. *Lancet*. 2008;372(9651):1733-1745.
 20. Harm Reduction International. The Global State of Harm Reduction 2012: Towards an integrated response. http://www.ihra.net/files/2012/07/24/GlobalState2012_Web.pdf. Accessed July 7, 2014.
 21. Weiss CH, Graham EM, Birkeland S. An Alternate Route to Policy Influence: How Evaluations Affect D.A.R.E. *Am J Eval*. 2005;26(1):12-30.
 22. Weiss CH. The Many Meanings of Research Utilization. *Public Administration Review*. 1979;39(5):426-431.

23. Amara N, Ouimet M, Landry R. New Evidence on Instrumental, Conceptual, and Symbolic Utilization of University Research in Government Agencies. *Science Communication*. 2004;26(1):75-106.
24. Cousins JB, Leithwood KA. Current Empirical Research on Evaluation Utilization. *Rev. Educ. Res.* 1986;56:331-364.
25. Weiss JA, Weiss CH. Social scientists and decision makers look at the usefulness of mental health research. *Am Psychol*. 1981;36(8):837-47.
26. Field P, Gauld R, Lawrence M. Evidence-informed health policy - the crucial role of advocacy. *Int J Clin Pract*. 2012;66(4):337-41.
27. Lavis JN, Ross SE, Hurley JE, et al. Examining the role of health services research in public policymaking. *Milbank Q*. 2002;80(1):125-54.
28. Landry R, Amara N, Lamari M. Utilization of social science research knowledge in Canada. *Research Policy*. 2001;30(2):333-349.
29. National Research Council. Using Science as Evidence in Public Policy. Washington, DC: The National Academies Press, 2012.
30. Turnbull B. A Confirmatory Factor Analytic Model of Evaluation Use. *Canadian Journal of Program Evaluation*. 1998;13(2):75-87.
31. Leviton LC, Hughes EFX. Research On the Utilization of Evaluations: A Review and Synthesis. *Eval. Rev.* 1981;5(4):525-548.
32. Greene JC. Communication of results and utilization in participatory program evaluation. *Eval. Program Plann.* 1988;11:341-351.
33. Johnson B, Hagstrom B. The Translation Perspective as an Alternative to the Policy Diffusion Paradigm: The Case of the Swedish Methadone Maintenance Treatment. *J. Soc. Policy* 2005;34:365-388.
34. Ritter A. How do drug policy makers access research evidence? *Int J Drug Policy*. 2009;20(1):70-5.

35. Burris, S. Syringe exchange in York, Pennsylvania: a legal analysis. *Center for Law and the Public's Health at Georgetown and Johns Hopkins Universities*. 2000.
36. City of Philadelphia. Executive order 4-92.
<http://www.phila.gov/ExecutiveOrders/Executive%20Orders/4-92.pdf>. Accessed November 26, 2014.
37. Maryland General Assembly. Laws of Maryland 1970, Chapter 403, Section 287, Article 27. <http://aomol.net/megafile/msa/speccol/sc2900/sc2908/000001/000695/html/am695--897.html>. Accessed November 26, 2014.
38. Maryland General Assembly. Senate Bill 402: AIDS Prevention Sterile Needle and Syringe Exchange Pilot Program. <http://aomol.net/000001/000773/html/am773--1924.html>. Accessed November 26, 2014.
39. US Congress. Title 42 – The Public Health and Welfare Act.
<http://www.gpo.gov/fdsys/pkg/USCODE-2009-title42/pdf/USCODE-2009-title42-chap6A-subchapXXIII-partA-sec300ee-11.pdf>. Accessed November 26, 2014.
40. US Congress. Financial Services Appropriations Bill.
<http://www.gpo.gov/fdsys/pkg/PLAW-105publ277/pdf/PLAW-105publ277.pdf>. Accessed November 26, 2014.
41. US Congress. Consolidated Appropriations Act, 2008.
<https://www.govtrack.us/congress/bills/110/hr2764/text>. Accessed November 26, 2014.
42. Rahnema R, Mohraz M, Mirzazadeh A, et al. Access to harm reduction programs among persons who inject drugs: Findings from a respondent-driven sampling survey in Tehran, Iran. *Int. J. Drug Policy* 2014;25:717-723.
43. Nissaramanesh B, Trace M, Roberts M. The rise of harm reduction in the Islamic Republic of Iran. Briefing Paper 8: The Beckley Foundation Drug Policy Programme, http://www.beckleyfoundation.org/pdf/paper_08.pdf. Accessed July 9, 2014.
44. Razzaghi E, Nassirimanesh B, Afshar P, Ohiri K, Claeson M, Power R. HIV/AIDS harm reduction in Iran. *Lancet*. 2006;368(9534):434-5.

45. Tkatchenko-Schmidt E, Renton A, Gevorgyan R, Davydenko L, Atun R. Prevention of HIV/AIDS among injecting drug users in Russia: opportunities and barriers to scaling-up of harm reduction programmes. *Health Policy*. 2008;85(2):162-71.

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Table 1: Participation rate of stakeholders by city and position toward syringe exchange programs						
	Baltimore		Philadelphia		District of Columbia	
	Support	Oppositio n	Support	Oppositio n	Support	Oppositio n
Identified	14	8	13	3	15	3
Could Not Locate/ Deceased	3	4	1	0	0	0
Approached	11	4	12	3	10	2
Interviewed	10	0	9	2	8	0
Participation Rate	91%	0%	75%	67%	80%	0%

Table 2 - Demographic characteristics of study participants by city								
	Baltimore (n=10)		Philadelphia (n=11)		District of Columbia (n=8)		Total (n=29)	
	n	%	n	%	n	%	n	%
Gender								
Male	8	80%	7	64%	4	50%	19	66%
Female	2	20%	4	36%	4	50%	10	34%
Role								
Policy maker	8	80%	4	36%	3	38%	15	52%
Advocate	2	20%	7	63%	5	63%	14	48%
Race/Ethnicity								
African American	4	40%	1	9%	1	13%	6	21%
White	6	60%	8	73%	6	75%	20	69%
Latino/Hispanic	0	0%	2	18%	1	13%	3	10%