Improving HIV outcomes in Pakistan: the interaction between politics, power and implementation

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IMPROVING HIV OUTCOMES IN PAKISTAN: THE INTERACTION BETWEEN POLITICS, POWER AND IMPLEMENTATION

by
Hina Khalid

A Dissertation
Submitted to the University at Albany, State University of New York
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ABSTRACT

HIV contributes to the highest number of deaths from infectious diseases in low-income countries. In this three-paper dissertation, using the case of Pakistan, I focus on understanding how the exercise of power by actors at three different levels of the health system, individual, program and societal, influences policy implementation and shapes HIV program outcomes. The objective is to improve HIV service provision thereby achieving improved health policy outcomes. I adopt a mixed-methods approach and use quantitative (logit regression) and qualitative techniques (content analysis of newspapers and semi-structured interviews). One paper tests the role played by network operators in influencing condom use among commercial sex workers. I find that the protective effect of network operators only holds for transgender commercial sex workers suggesting that female commercial sex workers may be more vulnerable to exploitation by network operators. The findings highlight the importance of network operators as change agents. The second paper analyzes program and contextual challenges in achieving the global 90-90-90 target for HIV in Pakistan. My findings highlight both structural and implementation challenges in achieving this target, and suggest a need for strengthening the health system infrastructure and for greater collaboration among actors across the health system to accommodate public health goals such as these. The third paper focuses on analyzing how HIV and viral hepatitis are understood in Pakistan, and the role stigma plays in directing policy towards HIV risk groups. I find that hepatitis is understood only as medical disease but HIV is understood as a stigmatizing character trait. HIV disease understanding hampers HIV testing and treatment, suggesting a need to develop a counter narrative. My findings collectively highlight that service provision can be improved by acknowledging that actors at three levels of the health system, individual, program, and societal, exert influence over health policy outcomes.
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INTRODUCTION

HIV is a high priority disease. Over the years it has been understood as a public health issue, an international peace issue, a human rights issue, a security issue and an international development issue (Rushton, 2010; Shiffman, 2009; Woodling, Williams, & Rushton, 2012). It has also featured prominently among global goals such as the millennium development goals and the sustainable development goals, and has attracted large sums of development aid for health. From 2000 to 2015 per capita development aid for HIV ($10.6) was much higher than aid for tuberculosis ($1.4), malaria ($2.5), child health ($ 4.8) and maternal health ($ 2.7)(Birger et al., 2015). Yet, despite these efforts HIV is among the top ten causes of death globally and also contributes to the highest number of deaths from leading infectious diseases in low-income countries; in 2015, in such countries the disease led to 47.7 deaths per 100,000 people (WHO, 2017). Consequently, there is a need to increase policy efforts to tackle the problem.

In this three-paper dissertation, using the case of Pakistan, I focus on understanding how the exercise of power, understood more widely as politics, by actors at three different levels of the health system, individual, program and societal, influences implementation of policy and shapes HIV program outcomes. The objective is to improve service provision to HIV risk-groups, and more broadly achieve better health policy outcomes, by acknowledging that actors who are traditionally regarded to be outside the policy process exert influence over outcomes. I adopt a mixed-methods approach and use quantitative (logit regression) and qualitative techniques (content analysis of newspapers and semi-structured interviews). One paper tests the role played

1 Tuberculosis, HIV and malaria
2 Policy outcome here refers not to the policy itself but the effect of the policy.
by network operators in influencing condom use among commercial sex workers. The second paper explores implementation and structural issues in achieving global HIV targets in Pakistan. The third paper focuses on analyzing how HIV and viral hepatitis are understood in Pakistan and the role stigma plays in directing policy towards HIV risk groups.

I first provide a theoretical overview of the dissertation that links the three papers and then give details on my specific case, Pakistan. I then provide a brief overview of each paper and a discussion of the theories and concepts that guided it. Finally, I conclude with a discussion of my contribution to the literature and the policy implications of my work.

OVERVIEW

Policy implementation³, whether regarded as a distinct phase of the policy process⁴ or as an activity that cannot be separated from policymaking (Brodkin, 1990), is essential in shaping and influencing policy outcomes (Lipsky, 1980; Pressman & Wildavsky, 1984).

There are two widely recognized approaches to policy implementation, top-down and bottom-up, and a third approach, ‘implementation as politics’, which builds on the bottom-up perspective. Top-down approaches to policy implementation focus on the difference between bureaucratic outcomes and legislative intent (Brodkin, 1990). Bottom-up approaches focus on how the exercise of discretion by street level bureaucrats (teachers, welfare workers, police officers)

³ Pressman and Wildavsky (1984) define implementation as, “to carry out, accomplish, fulfill, produce, complete. .(.) a policy” (p.xxi)
⁴ Policy process research focuses on studying the interactions between public policy and surrounding actors, events and outcomes of policies. While these actors range from individuals to groups, they share a common goal: influencing politics and public policy(Sabatier and Weible, 2014).
influences and shapes public policies (Lipsky, 1980). While the previous two approaches acknowledge the role played by politics in implementation, ‘implementation as politics’ brings politics back into the center of policy implementation. It highlights how social politics influences the response to social policymaking. From this perspective, implementation can be thought of as policy politics (Brodkin, 1990).

Implicit among implementation theories is the concept of power, while explicit is the attention to politics, the exercise of power (Danziger & Smith, 1991). Power takes on many different forms (Lukes, 2005) and can be diffused or concentrated among individuals, institutions and organizations’ in society (Walt, 1994). Among the prominent forms of power is direct or observable power and this manifests in the ability to get someone to do something. Second, the group with power creates or reinforces barriers that prevent the airing of public conflicts thereby confining the scope of decision-making. As Schattschneider (1960, p. 71) argues, “some issues are organized into politics and others are organized out” (as cited in (Lukes, 2005) Finally, power is also exercised over individuals by shaping their wants and keeping certain issues outside of politics through social forces and institutional practices (Lukes, 2005). In terms of the concentration of power, pluralists argue that power is dispersed among different actors in the political system and no one group has complete power over the others (Walt, 1994). On the other hand, elitists consider power as being concentrated among certain dominant classes (example,

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5 Power also underlies theories of bureaucratic politics. Theories of the bureaucratic process are motivated by the idea that ‘administration is politics’ (Waldo, 1948) and some of these include, Allison’s paradigm of bureaucratic politics, networks and bureaucratic politics, representative bureaucracy (Frederickson, B. Smith, W. Larimer, & J.Licari, 2012). Power also features in theories of legislative policy making. Theories of legislative policy making, for example, the advocacy coalition framework, innovation and diffusion models in policy research, the policy feedback theory, social construction of target populations etc. (Sabatier & Weible, 2014).
leaders who are elected or appointed, owners of capital etc.) and while interest groups exist, they have varying levels of power (Walt, 1994).

There are many examples of the exercise of power in implementation. For example, in bottom-up approaches to implementation, street level bureaucrats exercise their power when they choose to form their own routines and when they go on strikes (Erasmus & Gilson, 2008). In top-down implementation, power is present in interactions between different actors and generates conflict. The excerpt below from (Pressman & Wildavsky, 1984) gives a sense of the interplay of power in interactions among policy actors:

Antagonisms would not be evident at the beginning, nor would they emerge rapidly. Rather, the conflicts would be covert and would become evident only after some time had passed. The interests and organizations involved would have thought that they wanted to do something, but experience would teach them that they had been mistaken (p.91) (....) Then as latent conflicts become manifest, the original agreements have to be renegotiated and a new and possibly more antagonistic situation emerges. The federal agency may discover that its funding recipients are not willing to abide by initial agreements or the recipients may interpret the agreements in ways that conflict with federal interpretations. (p. 92)

Finally, in the ‘politics as implementation’ approach, policy makers exercise power when they use their inherent biases in policy making. For example, the choice of private health schemes versus national health service in the American health system (Brodkin, 1990) can be thought of as a choice made to perpetuate the existing power structure.

While the ‘politics as implementation’ approach links implementation to social politics thereby bringing politics to the center of implementation (Brodkin, 1990), by extension, it also brings power – the concept that underlies politics (Danziger & Smith, 1991) - to the center of implementation. If we understand power to be present everywhere and as something that is not
confined only to politics, that is power shapes and defines our daily social interactions (Foucault, 1998) then this broadens the scope of who is considered an important and powerful actor in moderating implementation and shaping outcomes. From this perspective, every interaction, either directly or indirectly, between two or more individuals is shaped by power, is political (Foucault, 1998), and can influence outcomes; power is at the heart of social interactions (Parker & Aggleton, 2003). However, the different approaches to implementation confine the exercise of power to actors - bureaucrats, politicians, policy implementers and interest groups - that are either elected, appointed, employed in (or by) the government and seek to influence implementation. Little attention is given to actors who are not a part of the formal implementation apparatus, actors who are not in a strict sense considered political and do not occupy some type of office or possess resources. However, these actors are important in defining the success of implementation. For example in qualitative studies of condom use among female sex workers, the actions of network operators prevent successful implementation of condom use efforts among sex workers (Evans & Lambert, 2008; Lian, Chan, & Wee, 2000; Tata, 2004). Similarly in studies of HIV stigma, societal power has been shown to shape outcomes of HIV efforts (Parker & Aggleton, 2003). Placing power at the center of implementation moves the targets of policy\textsuperscript{7}, those who will experience the spillover effects of the policy, and those who may be averse to the policy as it harms their ideological interests, from the periphery to the center of the implementation process. These individuals and groups will also exercise power to prevent a movement away from the status quo if the policy being implemented harms their interests. As such a move can hinder effective policy implementation, in studies of implementation such actors can be considered ex-ante in the analysis (instead of ex-post) and

\textsuperscript{6} Here outcomes refers to tangible effects of the policy
\textsuperscript{7} The individuals and groups for whom the policy is intended
should be ascribed more value than just actors who can eventually moderate the outcome of implementation efforts.

My dissertation highlights the exercise of power by actors both within and currently broadly regarded outside the policy process. The first dissertation paper analyzes the interplay of power between actors at the individual level; network operators by mediating paid sexual transactions between sex workers and their clients and by linking sex workers to their clients’ possess power over sex workers. In doing so network operators shape policy outcomes. The second paper is at the program level and highlights that outcomes are shaped by the interaction of power and politics between different actors who are in the process of HIV policy making for service delivery. The exercise of power in the paper is between actors who are directly a part of the policy process. The final paper highlights the exercise of power by society with reference to their perception of people living with HIV. Their stigmatizing perception of people living with HIV acts a barrier in these people disclosing their HIV status and seeking treatment.

CASE DETAILS: PAKISTAN

Pakistan is classified as one of the low-middle income countries in South Asia as it’s per-capita gross national index is between $1,026 to $ 4,035 (World Bank, 2016). It has four provinces (Punjab, Sindh, Balochistan, Khyber Pukhtoonkhwa) and a group of federally administered tribal areas.

Pakistan is an extreme case for studying HIV in a country with a large number of injecting drug users (IDUs). It is one of the 20 ‘high-impact’ countries that have 70 percent of the global disease burden for HIV/AIDS, tuberculosis and malaria (The Global Fund, 2012). In 2015,
100,000 people were living with HIV in Pakistan, and 6,600 were receiving ARV (UNAIDS, 2016). IDUs and sex workers comprise the high-risk HIV groups in the country, and within them, the largest concentration of HIV is among IDUs. In 2011, the estimated number of IDUs in Pakistan was 46,351 and the prevalence of HIV among them was 27.7 percent (NACP, 2011). Among sex workers, the highest prevalence is among transgender sex workers (7.2 percent), followed by male sex workers (3.1 percent) and female sex workers (0.8 percent). The prevalence of HIV in the general population is very low (0.01%) (NACP, 2011).

International donor organizations are the largest source of revenue for HIV prevention, treatment and care in the country. In 2015, the contribution of international and domestic sources for HIV program activities was $ 6.36 million and $ 3.63 million respectively (UNAIDS, 2016). The involvement of major donor organizations has changed over time based on shifts in the donor landscape. From 2003-2009, HIV program activities were shaped by the World Bank through a partnership between the World Bank and the national and provincial HIV programs (the Enhanced HIV/AIDS Control Program) (Emmanuel et al., 2013). Following the withdrawal of the World Bank in 2010, the Global Fund became the main financer of HIV related efforts; in 2015, it committed approximately $ 27.7 million for HIV efforts in Pakistan for three years. The highest spending is on prevention activities (IDUs being the largest focus of HIV prevention activities) (UNAIDS, 2016), followed by care and treatment.

HIV harm reduction services and treatment is delivered to the risk groups (sex workers and injecting drug users) through collaborative activities between the National AIDS Control Program, the four provincial AIDS Control Programs, community based organizations hired on
contracts, and international donor organizations. HIV remains a politically contentious and stigmatized issue in the country.

THE THREE DISSERTATION PAPERS AND THEORETICAL MOTIVATION FOR EACH PAPER

Paper 1
In this paper, using a quantitative approach I test the association between condom use and the presence of network operators and whether findings differ between female and male-to-female transgender commercial sex workers in Pakistan. I find that transgender commercial sex workers in Pakistan using network operators have higher rates of condom use. However, this protective effect does not hold among female commercial sex workers suggesting that female commercial sex workers may be more vulnerable to exploitation by network operators.

Theoretical and conceptual influences include the theory of social capital, behavioral economics and the socio-ecological model of health. Social capital refers to those tangible assets that tend to mean the most in daily lives, “[..] namely goodwill, fellowship, sympathy, and social intercourse among a group of individuals and families who make up a social unit [..]” (Hanifan, 1916, p.130). I was interested in exploring how gender moderated the relationship between network operators and sex workers as the literature suggested that unlike female commercial sex workers, transgender sex workers had a very personalized relationship with the network operator as they were organized in strong hierarchical communities (Pinto, Melendez, & Spector, 2008). Additionally, behavioral economics approaches highlighted that individuals can value current pay-offs more highly as compared to future pay-offs (Operario, Kuo, Sosa-Rubí, & Gálarraga, 2013) which could influence the choice of risky behavior among sex-workers. Finally, the socio ecological model of health also motivated this paper as it highlights that health outcomes are
determined by factors at multiple levels of the health system. Individuals, interpersonal relationships, organizations, social institutions, communities, and public policies can all shape health outcomes (CDC, 2015).

**Paper 2**

In this paper, using semi-structured interviews, I focus on understanding the program and contextual challenges faced by HIV programs in a developing country with a large injecting drug user population, in achieving the 90-90-90 target of having 90% of all people living with HIV know their status, receive antiretroviral therapy and achieve viral suppression by 2020. I find several structural and implementation challenges in meeting these goals. My findings highlight the importance of well-developed health system infrastructure and the need to address implementation challenges to accommodate public health goals such as the 90-90-90 target.

Theoretical and conceptual influences include policy diffusion, theories of policy implementation and issues in contract management. *Policy diffusion* refers to the spread of innovations from one government to another (Shipan & Volden, 2008). While diffusion of policies can occur in a variety of ways, the external pressure framework influenced this paper. The external pressure framework highlights that the adoption of similar reforms in dissimilar settings can be the outcome of pressure from the international system (Weyland, 2005). As the 90-90-90 targets were developed by global organizations, the United Nations Programme on HIV/AIDS and the World Health Organization, there was an a-priori expectation that Pakistan would abide by these targets. However, it was unclear the extent to which Pakistan would be successful in achieving these targets as there are challenges to implementing global targets in local settings. Therefore, the second major influence on this paper was the different theories of
This paper is influenced by the top-down approaches to implementation and the ‘implementation as politics’ approach. Top-down approaches to policy implementation focus on the difference between bureaucratic outcomes and legislative intent (Brodkin, 1990). As a variety of actors were involved in service provision, government, non-governmental organizations and donor organizations, and HIV is a socially and hence politically contentious issue, I was interested in exploring the politics involved in implementing policy. Finally, as HIV program services are provided through non-governmental organizations hired on contracts literature on issues in contract management suggested there may be potential issues in managing the relationship. This literature highlights that over the last decade with the changing nature of public service provision governments are increasingly contracting out services. While in traditional hierarchically managed service provision, government relies on direct authority to oversee the activities of subordinates, in contrast service provision through contracts requires overseeing performance on negotiated aspects of the contract. However, governments often use the tools required for managing hierarchical service provision for managing contracts which creates challenges for service provision (Kettl, 2010).

**Paper 3**
In this paper, I use a multi-method approach (content analysis, semi-structured interviews and thematic newspaper analysis). I focus primarily on HIV and examine how HIV and viral hepatitis, diseases that have predominantly similar modes of transmission (injecting drug users) in the country yet varying levels of stigma are understood, what stigma means and the consequences this has for HIV programs seeking to provide services to people living with HIV. The findings highlight that although both diseases are spread through IDUs, there is a difference in how they are understood; hepatitis is understood only as a medical disease but HIV becomes a
stigmatizing character trait. Therefore people with viral hepatitis openly disclose their status and seek treatment while people living with HIV hide their HIV status. The findings highlight that disease understanding poses a problem for HIV testing and treatment, suggesting a need to develop a counter narrative.

Conceptual influences include the theory of social construction of target populations. Social construction of target populations contends that benefits and losses in terms of public policy are conferred on groups not just because of the political power they wield in society, but also because of their social construction. Groups that have a positive social construction receive benefits while those with a negative social construction are at a disadvantage (Schneider, Ingram, & Deleon, 2014). However, in my paper focus is on how the disease is understood and how society responds to it versus how policy makers respond to the disease.

CONTRIBUTION TO THE LITERATURE AND POLICY IMPLICATIONS

Overall, by analyzing policy outcomes at three distinct levels of the health system my dissertation highlights that outcomes are not only shaped by actors who have political interests and motivations, but also by individuals and members of society who are not directly involved in policy formation or implementation. More specifically, these findings contribute to several diverse literatures. The first paper adds to the existing literature on risky behavior among sex workers (Choi & Holroyd, 2007; Evans & Lambert, 2008; Jie et al., 2012; Wawer, Podhisita, Kanungsukkasem, Pramualratana, & McNamara, 1996) by providing empirical evidence that network operators can encourage protective or risky behavior among sex workers. Additionally, it expands the literature on risky behavior among transgender sex workers, a population that
remains relatively understudied. The second paper highlights that global goals are sometimes not achieved due to implementation challenges stemming from the interaction between different power structures, and interdependencies between actors (for example, NGOs-government; government-physicians-Ministry of Narcotics control) in policy implementation. It has been suggested in earlier global health research that there is a need to shift focus from solely addressing input constraints and give more importance to the role politics plays in the success or failure of health interventions (Reich, Takemi, Roberts, & Hsiao, 2008). The findings also reinforce existing literature on health system strengthening (Adam et al., 2012; WHO, 2007) by highlighting the importance of the need to invest in the health system. Finally, the third paper reinforces the stigma literature by confirming the presence and adverse effect of stigma (Hargreaves et al., 2016; Pulerwitz & Bongaarts, 2014; Pulerwitz, Michaelis, Weiss, Brown, & Mahendra, 2010; Winskell, Hill, & Obyerodhyambo, 2011), and adds to it by identifying what stigma means and some of the barriers to effectively treating HIV in Pakistan. Additionally, it adds to the growing literature on framing (Colombini et al., 2016; Koon, Hawkins, & Mayhew, 2016) by highlighting that an issue can be misunderstood, or downplayed based on which aspects of an issue gain traction in the media; the focus of previous framing literature has been on highlighting that framing influences perceptions of individuals (Colombini et al., 2016; Koon et al., 2016).

There are several policy implications of these findings. Overall, these findings suggest that public managers can achieve better service provision by taking the motivations of actors traditionally not regarded as political into consideration; citizen participation in decision making in other sectors has been shown to have both merits and de-merits (Irvin & Stansbury, 2004) and
can be considered as an important step towards enabling policies achieve their intended objectives. Second, the findings highlight that as the nature of service provision is changing (I provide an example of service provision through non-governmental organizations) there is need for a different type of management, one that is more suitable for networked provision (O’Toole, Jr, Meier, & Nicholson-Crotty, 2005) and improved governance of the health system (WHO, 2007). Finally, they call for the state to play a more active role in protecting the rights of vulnerable and deviant populations to prevent their exploitation. Social politics influences social policy making (Brodkin, 1990) and HIV is especially a case in point of how social biases influences policy choices.

The dissertation papers also have specific policy implications. The first paper highlights that network operators can be important change agents and so HIV prevention efforts can focus on them more squarely. The second paper highlights the importance and need for leadership and governance across the health system and suggests that collaboration and coalition building across different government sectors and with actors outside the government can help in creating a more enabling environment for achieving policy goals. Finally, the third paper highlights that public health goals (such as delivering HIV prevention and treatment services to people) can be better achieved through improved understanding of the disease; improved disease understanding can be achieved through investing resources both towards developing a counter-narrative and through better marketing of HIV.
References


nested in the HPTN 071 (PopART) cluster-randomized trial in Zambia and South Africa.


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PAPER 1: RELATIONSHIP BETWEEN NETWORK OPERATORS AND RISKY SEX BEHAVIORS AMONG FEMALE VERSUS TRANSGENDER COMMERCIAL SEX WORKERS IN PAKISTAN

Hina Khalid and Erika G. Martin

Manuscript prepared for JAIDS
ABSTRACT

BACKGROUND

Unprotected sex among commercial sex workers (CSWs) remains a leading cause of HIV transmission internationally. Previous research on factors affecting the use of condoms among CSWs is primarily qualitative and has focused on female CSWs. There is limited research on condom use among male-to-female transgender CSWs or the role of network operators, such as pimps and aunties, who mediate paid sexual transactions. It is important to study this, as the rates of HIV transmission among transgender CSWs are increasing, and research on female CSWs suggests that network operators play an important role in the decision to use condoms. We test the association between condom use and the presence of network operators and whether findings differ between female and male-to-female transgender CSWs in four Pakistan provinces with a large CSW population.

METHODS

Seven hundred sixty-nine male-to-female transgender and 1,606 female CSWs were identified in the 2011 Integrated Behavioral and Biological Survey. Logistic regression models assessed if the likelihood of always using condoms during transactions was associated with whether clients are recruited using network operator, and whether this relationship differed by gender, controlling for individual-level covariates and city of residence.

FINDINGS

Seven hundred thirty-six female CSWs recruited clients using a network operator, and out of this 29 percent reported consistent condom use. 157 transgender CSWs recruited clients using a network operator and out of this, 64 percent reported consistent condom use. CSWs receiving clients through a network operator had a slightly lower, but insignificant odds of always using a condom compared with CSWs receiving clients through some other source (OR: 0.98, CI:.
0.79, 1.22). However, consistent condom use varied by gender; transgender CSWs recruiting clients through a network operator had higher odds of consistently using condoms compared with female CSWs recruiting clients through some other source (ROR: 2.73, CI: 1.64, 4.54). The odds of consistent condom use among transgender CSWs receiving clients through a network operator were 1.96 (CI: 11.17, 2.76) and for female CSWs recruiting clients through the same source were 0.95 (CI: 0.72, 1.19).

**INTERPRETATION**

Transgender CSWs in Pakistan using network operators have higher rates of condom use, as compared to female CSWs using network operators, suggesting that female CSWs may be more vulnerable to exploitation by network operators. This implies that network operators may be a valuable group to target for HIV prevention efforts; behavioral interventions such as conditional economic incentives and improved condom negotiation skills can help in encouraging less risky behavior. Further research is needed to understand the protective effect of network operators on transgender CSWs.

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None
INTRODUCTION

Unprotected sex among commercial sex workers (CSWs) remains a leading cause of HIV transmission internationally. In low and middle income countries the prevalence of HIV among female CSWs is around 12 percent (Baral et al., 2012), while for transgenders it ranges from 8 percent to 68 percent (WHO, 2011). Harm reduction interventions aim to promote safer practices such as consistent condom use among individuals who engage in risky behaviors (such as CSWs), to reduce harmful consequences such as HIV transmission (Rekart, 2005).

Previous research on factors affecting the use of condoms among CSWs has looked at factors at the individual level (such as: age (Jie et al., 2012; Joesoef, Linnan, Kamboji, Barakbah, & Idajadi, 2000; Shaw et al., 2011; Siddiqui et al., 2011; Vanwesenbeeck, 2001), number of clients (Andrews, Finkelic, Sychaerun, & Phrasisombath, 2015; Jie et al., 2012; Joesoef et al., 2000; Shaw et al., 2011; Tamene, Tessema, & Beyera, 2015), education (Andrews et al., 2015; Jie et al., 2012; Joesoef et al., 2000; Siddiqui et al., 2011; Tamene et al., 2015), duration of sex work (Andrews et al., 2015; Shaw et al., 2011), intoxication (Siddiqui et al., 2011; Wee, Barrett, Lian, Jayabaskar, & Chan, 2004), knowledge of HIV and sexually transmitted infections (Jie et al., 2012), lower self efficacy among sex workers (Varga, 2001; Wee et al., 2004) and clients (Tata, 2004), availability and affordability of condoms (Andrews et al., 2015), and risk perception (Tamene et al., 2015)) and the structural level (policing (Shannon et al., 2008), criminalization (Choi & Holroyd, 2007), brothels versus other locations for sex work (Joesoef et al., 2000; Levine et al., 1998; Shannon et al., 2008; Vanwesenbeeck, 2001) and financial incentives (Choi & Holroyd, 2007; Evans & Lambert, 2008; Jie et al., 2012; Wawer, Podhisita, Kanungsukkasem, Pramualratana, & McNamara, 1996)). However, there is limited empirical
evidence for the role of network operators who connect and mediate paid sexual transactions between sex workers and their clients and condom use among CSWs. Past research on this association is qualitative and limited to female CSWs in brothels. It suggests that although network operators can encourage protective behavior (Maher et al., 2011; Pauw & Brener, 2003; Tata, 2004) by negotiating condom use for female CSWs, (Maher et al., 2011) they can also encourage risky sexual behavior among sex workers (Evans & Lambert, 2008; Lian, Chan, & Wee, 2000; Tata, 2004), as sex without condoms fetches a higher price (Wojcicki & Malala, 2001) and using condoms are perceived as negative for their business (Basuki et al., 2002). There is virtually no quantitative research on either population due to the unavailability of population level survey data on these high risk groups.

It is important to study the role of network operators for transgenders, due to increased prevalence of HIV among transgenders and especially among male-to female transgenders globally (WHO, 2015). Second, transgenders face social stigma and discrimination like female CSWs, but their status as a sexual minority (Pinto, Melendez, & Spector, 2008) leads to increased discrimination. Consequently, as a coping mechanism transgenders use gendered social networks for developing social capital and drawing support (Pinto et al., 2008). This sense of community can introduce a protective effect for transgenders in South Asia, as transgenders are organized in strong hierarchical communities, with transgendered network operators being their guides and spiritual leaders (Thompson et al., 2013). A descriptive study in the context of Pakistan found high rates of consistent condom use among transgender CSWs in one city, and suggested that the effect may be due to the network operator (Thompson et al., 2013). However, the effect was not tested. Consequently, to address this research gap, we use population survey
data across cities in four regions in Pakistan, a country in South Asia, to test the association between condom use and the presence of a network operator, and if these findings differ between female and transgender CSWs in four regions with a large CSW population.

While prostitution is illegal in Pakistan, it operates as thriving hidden business (Malik, 2013), and both female CSWs and transgender CSWs recruit their clients through a network operator or through other sources (for example: cell phones or roaming the streets (Emmanuel et al., 2013)). For female CSWs the network operator is a pimp or a senior female CSW, referred to as an auntie or madam in Pakistan’s context (Emmanuel et al., 2013). Male-to female transgender CSWs are known as hijras’ (Altaf, Zahidi, & Agha, 2012) in the context of South Asia, and their network operator is called the ‘guru’, who is also their father and protector (Thompson et al., 2013). The study uses cross sectional survey data to examine the use of condoms among female and transgender CSWs. It analyzes how gender moderates the relationship between use of a network operator and condom use among CSWs.

METHODS

Data analysis

Survey details

The 2011 Integrated Behavioral and Biological Survey is a cross sectional survey of individuals in high risk groups that was conducted jointly by individuals in several Canadian organizations, AIDS Control Programs across the four provinces in Pakistan, and Non Governmental Organizations in Pakistan. Slightly different sampling methodologies were used to recruit different types of sex workers as is the norm in high risk group sampling. Female CSWs were
selected using multistage cluster based sampling and network based sampling, and transgender CSWs were recruited using network based sampling (NACP, 2008). The focus of the survey is urban locations, and it is administered in several major cities across the four provinces in Pakistan.

Population

We restrict our sample to female CSWs and male-to-female transgender CSWs, as only 2 percent of the 1,987 male CSWs in the sample use network operators and including them would lead to an underpowered analysis. For female CSWs and transgender CSWs, we restricted our sample based on the following criteria. First, we dropped the city Dera Ghazi Khan from the analysis, as we did not have data on transgender CSWs for this city. Second, we dropped those individuals who reported that their status as HIV positive, as the proportion of such CSWs who had been tested across both samples was very small. Additionally, adding a dummy variable for result of HIV test would not only lead to a very small sample size, but the analysis itself would also be underpowered as the number of people with diagnosed HIV was very small. Finally, for a cleaner comparison we drop those individuals whose main occupation was not sex work. In a sensitivity analysis, we extend the sample to include these individuals, and also run our estimation for individuals who were tested for HIV in the sensitivity analysis.

Variables

Outcome and Main Effects Variable

The outcome variable for this analysis is self-reported consistent condom use during sexual encounters with paying clients (always versus sometimes or never). The main independent
variable is the source of clients (network operator versus other sources including self-recruited using mobile phones or roaming around). Gender (female versus transgender) is the moderating variable. An interaction term between gender and source of clients allows us to assess differences in the relationship between receiving clients from a network operator as compared to receiving clients from some other source, and always using a condom by gender.

Control Variables

We control for multiple confounding variables: age, logged monthly income, education, knowledge of a program for HIV services and care, risk perception, knowledge that HIV is transmitted through sex, and years since the CSW was involved in sex work. In addition, we include dummy variables for city of residence to control for regional variation.

Analytic Methods

In bivariate analysis, chi square tests compare characteristics by gender. We run two main logistic regression models to calculate adjusted odds ratios. In our first model, we focus on testing the association between source of clients, gender and always using a condom. In the second model, we study moderation effects by adding an interaction term that tests the difference in the odds ratio comparing condom use between transgender CSWs receiving clients through network operators, and female CSWs recruiting clients through some other source.

We run several sensitivity analyses. First, we run an ordered logit with three categories of condom use: always, sometimes and never. Second, we run our model for individuals who were tested for HIV as an independent variable. Finally, we extend the sample to include CSWs who
did not have sex work as their main occupation.

All analyses were done using STATA 14. We do not use sampling weights in the analysis, as the samples for female CSW and transgender CSW were collected using different sampling methodologies.

RESULTS

Overall, 38 percent of the CSWs used condoms consistently. However, there were differences by gender, and 36 percent of female CSWs and 44 percent of transgender CSWs used condoms consistently. Overall, 37 percent of CSWs use a network operator. However, there were differences by gender and 46 percent of female CSWs and 20 percent of transgender CSWs recruited clients through network operators (see table 1).

In the logistic regression model with the main effects (see table 2, model I), there was no statistically significant difference in the adjusted odds ratio of always using a condom, between transgender and female CSWs (OR: 0.98, 95% CI: 0.74, 1.31). The odds ratio of always using a condom for CSWs using a network operator versus some other source of client recruitment was also not statistically significant (OR: 0.98, 95% CI: 0.79, 1.22). When we included an interaction term between source of client and gender (see table 2, model II) we observe transgender CSWs had higher odds of consistently using condoms compared with female CSWs recruiting clients through some other source, and this effect is statistically significant (relative OR: 2.73, CI: 1.64, 4.54).
Figure 1 visually presents the odds for always using a condom by client source and gender. The darker bars show the odds for female CSW, and the lighter bars represent transgender CSW. Among CSWs receiving clients through network operators the odds of consistent condom use are the highest among transgender CSWs (odds: 1.96, 95% CI: 11.17, 2.76), while the odds of condom use among female CSWs are lower (odds: 0.95, 95% CI: 0.72, 1.19). The odds of condom use among female CSWs receiving clients from other sources is higher (odds: 1.27, 95% CI: 0.99, 1.54) than the odds of condom use among transgender CSWs receiving clients from other sources (odds: 0.95, 95% CI: 0.71, 1.18).

City of residence and several individual level covariates were also associated with always using a condom. In the model with the interaction term (table 2, model II), we find education has a statistically significant and positive relationship with always using a condom. The odds of always using a condom are 89 percent, 50 percent and 51 percent higher respectively among CSWs with secondary, middle and primary education, as compared to CSW with no education (secondary education OR: 1.89, 95% CI: 1.44, 2.49; middle education OR: 1.50, CI: 1.12, 2.00; primary education: OR: 1.51, 95% CI: 1.17, 1.96). The odds of always using a condom are 30 percent higher among CSWs with knowledge that HIV is transmitted through sex (OR: 4.30, 95% CI: 2.77, 6.68). CSWs who did not receive free condoms had 29 percent lower odds of always using a condom (OR: 0.29, 95% CI: 0.21, 0.39). Income, age, and the years that CSWs were involved in sex work were not significant predictors of condom use. Perception of being at risk of HIV led to 70 percent lower odds of consistent condom use among CSWs (OR: 0.70, CI: 0.53 to 0.93).
Sensitivity Analysis:

Using an ordered logit and extending the model to include CSWs who have other sources of employment apart from sex work did not alter the results. Adding a dummy variable for HIV status led to insignificant results. The appendix contains results from the sensitivity analyses.

DISCUSSION

We test the association between condom use and the presence of a network operator and if this differs between female and transgender CSWs in four Pakistan provinces with a large CSW population. Our findings show that CSWs receiving clients through a network operator had a slightly lower but insignificant odds ratio of consistent condom use. However, consistent condom use varied by gender; transgender CSWs recruiting clients through a network operator had higher odds of consistently using condoms compared with female CSWs recruiting clients through some other source (ROR: 2.73, CI: 1.64, 4.54).

Based on previous research, two casual mechanisms might explain why network operators may contribute to riskier sexual practices among female CSWs. First, poor negotiation skills among network operators may limit their ability to negotiate for condom use for sex workers leading to riskier behavior (Evans & Lambert, 2008; Tata, 2004). Second financial considerations of sex workers and network operators may lead to riskier behavior. As customers are willing to pay a higher price for sex without condoms, both network operators and sex workers may be inclined to engage in risker behavior for higher financial renumeration (Wojcicki & Malala, 2001). For transgender CSWs, the protective effect of the network operator (guru) may be due to the nature of the relationship between the guru and the transgender CSW. This is because transgender
communities in South Asia are very strong and hierarchical, and are led by the guru who acts as the father, guide, protector, teacher and spiritual leader (Altaf et al., 2012; Mohyuddin & Ali, 2013; Thompson et al., 2013).

Given the high percentage of CSWs who report using network operators, network operators may be a valuable group to target for HIV prevention efforts. One possible strategy is that network operators and sex workers can be incentivized to engage in less risky behavior through conditional economic incentive programs (Operario, Kuo, Sosa-Rubi, & Gálarraga, 2013). These programs provide rewards to individuals who engage in behavior that can lead to positive health outcomes. For example, giving rewards to individuals for HIV testing, adherence to treatment etc. These programs are driven by a behavioral economics approach, which argues that behavioral decisions are influenced by contextual factors, and utility is a function of intuitive judgment that factors in immediate preferences more heavily as compared to their long-term consequences (Operario et al., 2013). This implies that while sex workers may be aware of the risk involved in condom less sex, they may still engage in risky behavior because the short-term benefit of higher financial remuneration to meet basic needs is more salient than the long-term benefit of reduced HIV risk. In our study, we also find that perceiving oneself at a risk of HIV does not have a significant relationship with condom use. While conditional economic incentive programs may be a strategy to encourage safer sex among CSWs, they face the additional challenge of self-reported condom use by the sex worker (Operario et al., 2013). Nevertheless, they can be an improvement from the status quo.

For HIV prevention, another effective strategy for addressing risky behavior may be to improve
condom negotiation skills among both network operators and CSWs. In our IBBS survey data, the most common reason cited by CSWs for inconsistent condom use was the partner’s insistence on not using a condom: 50 percent and 38% of female and transgender CSWs cited this as a reason for not using a condom, respectively. While previous research suggests that women have less negotiation power in sexual interactions (Gupta, Weiss, & Whelan, 1996), and negotiating to use condoms can increase violence in sex work (Abdooll, Abdooll, & Nkomokazi, 1991), there is also evidence that negotiation skills among CSWs lead to increased condom use (Wong, Chan, & Koh, 1998). Consequently, educating both female CSWs and network operators on condom negotiation strategies may mitigate some of the risky sexual behavior. Previous research suggests a number of strategies that can be implemented, for example: infusing fear among clients for not using condoms, showing clients the benefits of using condoms, emotionally appealing to clients that the sex worker cannot get sick, and reminding clients that it is required by the government (Lian et al., 2000). Another possible strategy for addressing risky behavior can be to improve knowledge of HIV/AIDS transmission among female CSW, network operators and the general population (Jie et al., 2012). This is consistent with our findings that both knowledge that HIV/AIDS is transmitted through sex and higher levels of education are associated with less risky behavior among both genders.

Finally, our results also support a growing belief that laws and policies to protect the rights of vulnerable populations can promote safer sexual behavior. Previous research suggests that the ability to practice safe sex is influenced by the social-power relations, and these in turn are influenced by the overall policy environment (Evans & Lambert, 2008). For example, due to criminalization of sex work (Rekart, 2005) and stigma and discrimination (Wojcicki & Malala,
attached with sex workers, network operators, clients and police have more leverage and bargaining power than female CSWs, making CSWs vulnerable to exploitation (Rekart, 2005) thereby contributing to risky sexual behavior among sex workers.

There are several limitations of our study. First, because the data are cross sectional we were only able to test associations. Longitudinal data is needed to test causal pathways. Second, poverty is an important control variable that is missing, although we include education and income as proxies. Third, the data is self-reported, and so there may be respondent bias. Fourth, while we propose a potential explanation, we do not have qualitative information that allows us to explain why the network operator for the transgender CSW (guru) has a protective effect. Finally, there may be important differences between gender that would contribute to CSWs seeking out a network operator, which we cannot test in our analysis.

We find that network operators play a role in encouraging safe or risky sexual behavior; for transgender CSWs they have a protective effect, but for female CSW they do not have a protective effect. Our paper contributes to the existing literature by empirically testing the relationship between a network operator and condom use among CSWs, and how this relationship is moderated by gender. Additionally, we add to the literature on transgenders, who are a less studied population. The major implication of our study is that network operators can be important change agents for HIV prevention and may be an important group to target for harm reduction interventions. Future work can explore in depth if conditional economic incentive programs and educating network operators makes a difference for female CSWs, and what explains the causal mechanisms behind the network operators having a protective effect for
transgender CSWs.
Table 1: Sample characteristics of female and male-to-female commercial sex workers from cities in four Pakistan provinces, and differences in consistent condom use and use of a network operator to recruit clients, 2011

<table>
<thead>
<tr>
<th></th>
<th>Total N=2375</th>
<th>Female CSW N=1606</th>
<th>Transgender CSW N=769</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistent condom use</td>
<td>912 (38)</td>
<td>575 (36)</td>
<td>337 (44)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Use of a network operator</td>
<td>893 (37)</td>
<td>736 (46)</td>
<td>157 (20)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Knows of a government program for condoms, N (%)</td>
<td>625 (26)</td>
<td>395 (25)</td>
<td>230 (30)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Received free condoms, N (%)</td>
<td>733 (31)</td>
<td>493 (31)</td>
<td>240 (31)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Consider yourself at risk of HIV/AIDS, N (%)</td>
<td>1178 (50)</td>
<td>778 (48)</td>
<td>400 (52)</td>
<td>0.10</td>
</tr>
<tr>
<td>Knowledge that HIV/AIDS is transmitted through sex, N (%)</td>
<td>2189 (92)</td>
<td>1509 (94)</td>
<td>680 (88)</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Education, N (%)</td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>None</td>
<td>1036 (44)</td>
<td>689 (43)</td>
<td>338 (44)</td>
<td></td>
</tr>
<tr>
<td>Primary school</td>
<td>522 (22)</td>
<td>304 (19)</td>
<td>218 (28)</td>
<td></td>
</tr>
<tr>
<td>Middle school</td>
<td>372 (16)</td>
<td>245 (15)</td>
<td>127 (17)</td>
<td></td>
</tr>
<tr>
<td>Secondary school</td>
<td>445 (19)</td>
<td>359 (22)</td>
<td>86 (11)</td>
<td></td>
</tr>
<tr>
<td>City, N (%)</td>
<td></td>
<td></td>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Quetta, Balochistan</td>
<td>223 (9)</td>
<td>148 (9)</td>
<td>75 (10)</td>
<td></td>
</tr>
<tr>
<td>Karachi, Sindh</td>
<td>265 (11)</td>
<td>173 (11)</td>
<td>92 (12)</td>
<td></td>
</tr>
<tr>
<td>Sukkur, Sindh</td>
<td>180 (8)</td>
<td>167 (10)</td>
<td>13 (2)</td>
<td></td>
</tr>
<tr>
<td>Larkana, Sindh</td>
<td>323 (14)</td>
<td>177 (11)</td>
<td>146 (19)</td>
<td></td>
</tr>
<tr>
<td>Multan, Punjab</td>
<td>284 (12)</td>
<td>185 (12)</td>
<td>99 (13)</td>
<td></td>
</tr>
<tr>
<td>Faisalabad, Punjab</td>
<td>259 (11)</td>
<td>228 (14)</td>
<td>31 (4)</td>
<td></td>
</tr>
<tr>
<td>Sargodha, Punjab</td>
<td>138 (6)</td>
<td>90 (6)</td>
<td>48 (6)</td>
<td></td>
</tr>
<tr>
<td>Lahore, Punjab</td>
<td>254 (11)</td>
<td>155 (10)</td>
<td>99 (13)</td>
<td></td>
</tr>
<tr>
<td>Rawalpindi, Punjab</td>
<td>122 (8)</td>
<td>122 (8)</td>
<td>17 (2)</td>
<td></td>
</tr>
<tr>
<td>Peshawar, Khyber Pakhtunkhwa</td>
<td>113 (5)</td>
<td>109(7)</td>
<td>4 (0.5)</td>
<td></td>
</tr>
<tr>
<td>Haripur,</td>
<td>197 (8)</td>
<td>52(3)</td>
<td>145 (19)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Khyber Pakhtunkhwa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------------------</td>
<td>----------</td>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Age, Mean (SD)</td>
<td>27 (6)</td>
<td>26 (6)</td>
<td>27 (6)</td>
<td></td>
</tr>
<tr>
<td>Income logged, Mean (SD)</td>
<td>9.6 (0.5)</td>
<td>9.8 (0.5)</td>
<td>9.3 (0.5)</td>
<td></td>
</tr>
<tr>
<td>Years since involved in sex work, Mean (SD)</td>
<td>7.3 (5.6)</td>
<td>5.2 (4.2)</td>
<td>11.7 (5.7)</td>
<td></td>
</tr>
<tr>
<td>SD: standard deviation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2: Logistic regression testing the association between receiving clients from a network operator and always using a condom in Pakistan, 2011

<table>
<thead>
<tr>
<th>Dependent variable: Always used a condom</th>
<th>Model I Without moderating effect of gender</th>
<th>Model II With moderating effect of gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Odds Ratio 95% CI</td>
<td>Odds Ratio 95% CI</td>
</tr>
<tr>
<td>Male-to-female transgender CSW</td>
<td>0.98 0.74 to 1.31</td>
<td>0.75 0.54 to 1.03</td>
</tr>
<tr>
<td>Female CSW</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Network operator</td>
<td>0.98 0.79 to 1.22</td>
<td>0.75 0.58 to 0.97</td>
</tr>
<tr>
<td>*Other source of client recruitment</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Network operator x Male-to-female transgender</td>
<td>2.73 1.64 to 4.54</td>
<td>2.73 1.64 to 4.54</td>
</tr>
<tr>
<td>* Other x Female CSW</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Does not know of a government program for condoms</td>
<td>0.92 0.66 to 1.30</td>
<td>0.91 0.65 to 1.28</td>
</tr>
<tr>
<td>*Knows of a government program for condoms</td>
<td>1 1</td>
<td>1</td>
</tr>
<tr>
<td>Did not receive free condoms</td>
<td>0.28 0.20 to 0.39</td>
<td>0.29 0.21 to 0.39</td>
</tr>
<tr>
<td>*Received free condoms</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Income, logged</td>
<td>0.92 0.75 to 1.12</td>
<td>0.92 0.75 to 1.11</td>
</tr>
<tr>
<td>Age</td>
<td>0.99 0.97 to 1.01</td>
<td>0.99 0.96 to 1.01</td>
</tr>
<tr>
<td>Years since involved in sex work</td>
<td>0.99 0.97 to 1.02</td>
<td>0.99 0.97 to 1.02</td>
</tr>
<tr>
<td>Consider yourself at risk of HIV/AIDS</td>
<td>0.65 0.52 to 0.83</td>
<td>0.66 0.52 to 0.83</td>
</tr>
<tr>
<td>*Do not consider yourself at risk of HIV/AIDS</td>
<td>1 1</td>
<td>1</td>
</tr>
<tr>
<td>Know that HIV/AIDS is transmitted through sex</td>
<td>4.33 2.78 to 6.72</td>
<td>4.30 2.77 to 6.68</td>
</tr>
<tr>
<td>*Do not know that HIV/AIDS is transmitted through sex</td>
<td>1 1</td>
<td>1</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>1.49 1.16 to 1.93</td>
<td>1.51 1.17 to 1.96</td>
</tr>
<tr>
<td>Middle</td>
<td>1.49 1.12 to 1.98</td>
<td>1.50 1.12 to 2.00</td>
</tr>
<tr>
<td>Secondary</td>
<td>1.90 1.44 to 2.5</td>
<td>1.89 1.44 to 2.49</td>
</tr>
<tr>
<td>*None</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>City</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quetta, Balochistan</td>
<td>0.28 0.17 to 0.45</td>
<td>0.28 0.17 to 0.45</td>
</tr>
<tr>
<td>Karachi, Sindh</td>
<td>0.23 0.15 to 0.37</td>
<td>0.26 0.16 to 0.43</td>
</tr>
<tr>
<td>Sukkur, Sindh</td>
<td>0.03 0.01 to 0.06</td>
<td>0.03 0.01 to 0.06</td>
</tr>
<tr>
<td>Larkana, Sindh</td>
<td>0.37 0.22 to 0.63</td>
<td>0.40 0.23 to 0.68</td>
</tr>
<tr>
<td>Multan, Punjab</td>
<td>0.05 0.03 to 0.09</td>
<td>0.07 0.04 to 0.12</td>
</tr>
<tr>
<td>Faisalabad, Punjab</td>
<td>0.16 0.10 to 0.26</td>
<td>0.18 0.11 to 0.30</td>
</tr>
</tbody>
</table>
Estimation sample N = 2375; * Reference category, and the odds ratio indicates if always using a condom is more than the reference group (>1) or less than the reference group (<1)

<table>
<thead>
<tr>
<th>Location</th>
<th>Odds Ratio</th>
<th>95% CI</th>
<th>Odds Ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sargodha, Punjab</td>
<td>0.14</td>
<td>0.08 to 0.25</td>
<td>0.17</td>
<td>0.09 to 0.29</td>
</tr>
<tr>
<td>Lahore, Punjab</td>
<td>0.15</td>
<td>0.09 to 0.26</td>
<td>0.18</td>
<td>0.11 to 0.30</td>
</tr>
<tr>
<td>Rawalpindi, Punjab</td>
<td>0.05</td>
<td>0.02 to 0.10</td>
<td>0.06</td>
<td>0.03 to 0.12</td>
</tr>
<tr>
<td>Peshawar, Khyber Pakhtunkhwa</td>
<td>0.19</td>
<td>0.11 to 0.33</td>
<td>0.20</td>
<td>0.12 to 0.36</td>
</tr>
<tr>
<td>*Haripur, Khyber Pakhtunkhwa</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>4.88</td>
<td>0.55 to 42.6</td>
<td>5.66</td>
<td>0.64 to 49.97</td>
</tr>
</tbody>
</table>

Model fit statistics:
Prob > χ² (22) = 644.18; p < 0.01
Prob > χ² (23) = 659.41; p < 0.01
Figure 1: Odds of always using a condom among commercial sex workers by gender and source of clients, Pakistan 2011
**APPENDIX**

**Table 1:** Ordered logistic regression testing the association between receiving clients from a network operator and frequency of using a condom (always, sometimes, never) in Pakistan, 2011

<table>
<thead>
<tr>
<th>Model I</th>
<th>Model II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without moderating effect of gender</td>
<td>With moderating effect of gender</td>
</tr>
<tr>
<td>Dependent variable: Always used a condom</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td>Male-to-female transgender CSW</td>
<td>1.14</td>
</tr>
<tr>
<td>*Female CSW</td>
<td>1</td>
</tr>
<tr>
<td>Network operator</td>
<td>0.98</td>
</tr>
<tr>
<td>*Other source of client recruitment</td>
<td>1</td>
</tr>
<tr>
<td>Network operator x Male-to-female transgender CSW</td>
<td>0.52</td>
</tr>
<tr>
<td>* Other x Female CSW</td>
<td>1</td>
</tr>
<tr>
<td>Does not know of a government program for condoms</td>
<td>1.08</td>
</tr>
<tr>
<td>*Knows of a government program for condoms</td>
<td>1</td>
</tr>
<tr>
<td>Did not receive free condoms</td>
<td>3.52</td>
</tr>
<tr>
<td>*Received free condoms</td>
<td>1</td>
</tr>
<tr>
<td>Income, logged</td>
<td>0.85</td>
</tr>
<tr>
<td>Consider yourself at risk of HIV/AIDS</td>
<td>1.16</td>
</tr>
<tr>
<td>*Do not consider yourself at risk of HIV/AIDS</td>
<td>1</td>
</tr>
<tr>
<td>Knowledge that HIV/AIDS is transmitted through sex</td>
<td>0.38</td>
</tr>
<tr>
<td>*Do not know that HIV/AIDS is transmitted through sex</td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td>1.01</td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>0.75</td>
</tr>
<tr>
<td>Middle</td>
<td>0.78</td>
</tr>
<tr>
<td>City</td>
<td>0.65</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Secondary</td>
<td>0.65</td>
</tr>
<tr>
<td>*None</td>
<td>1</td>
</tr>
<tr>
<td>Years since involved in sex work</td>
<td>1.00</td>
</tr>
<tr>
<td>City</td>
<td></td>
</tr>
<tr>
<td>Quetta, Balochistan</td>
<td>4.7</td>
</tr>
<tr>
<td>Karachi, Sindh</td>
<td>3.8</td>
</tr>
<tr>
<td>Sukkur, Sindh</td>
<td>15.43</td>
</tr>
<tr>
<td>Larkana, Sindh</td>
<td>2.83</td>
</tr>
<tr>
<td>Multan, Punjab</td>
<td>13.23</td>
</tr>
<tr>
<td>Faisalabad, Punjab</td>
<td>6.41</td>
</tr>
<tr>
<td>Sargodha, Punjab</td>
<td>7.84</td>
</tr>
<tr>
<td>Lahore, Punjab</td>
<td>8.81</td>
</tr>
<tr>
<td>Rawalpindi, Punjab</td>
<td>17.79</td>
</tr>
<tr>
<td>Peshawar, Khyber Pakhtunkhwa</td>
<td>6.91</td>
</tr>
<tr>
<td>*Haripur, Khyber Pakhtunkhwa</td>
<td>1</td>
</tr>
<tr>
<td>/ cut1</td>
<td>0.05</td>
</tr>
<tr>
<td>/cut 2</td>
<td>2.37</td>
</tr>
<tr>
<td>Model fit statistics</td>
<td></td>
</tr>
<tr>
<td>Prob &gt; $\chi^2$ (22)=688.80 ; p &lt;0.01</td>
<td></td>
</tr>
<tr>
<td>Prob &gt; $\chi^2$ (23)=696.85 ; p &lt;0.01</td>
<td></td>
</tr>
</tbody>
</table>

Estimation sample N = 2375; * Reference category, and the odds ratio indicates if always using a condom is more than the reference group (>1) or less than the reference group (<1)
Table 2: Logistic regression testing the association between receiving clients from a network operator and always using a condom in Pakistan, 2011 with independent variable declared HIV status

<table>
<thead>
<tr>
<th>Model I</th>
<th>Model II</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without moderating effect of gender</td>
<td>With moderating effect of gender</td>
</tr>
<tr>
<td>Dependent variable: Always used a condom</td>
<td>Odds Ratio</td>
</tr>
<tr>
<td>Male-to-female transgender CSW</td>
<td>0.52</td>
</tr>
<tr>
<td>Female CSW</td>
<td>1</td>
</tr>
<tr>
<td>Network operator</td>
<td>0.93</td>
</tr>
<tr>
<td>*Other source of client recruitment</td>
<td>1</td>
</tr>
<tr>
<td>Network operator x Male-to-female transgender CSW</td>
<td>2.07</td>
</tr>
<tr>
<td>* Other x Female CSW</td>
<td>1</td>
</tr>
<tr>
<td>Declared HIV negative</td>
<td>2.69</td>
</tr>
<tr>
<td>*Declared HIV positive</td>
<td>1</td>
</tr>
<tr>
<td>Income (logged)</td>
<td>0.90</td>
</tr>
<tr>
<td>Does not know of a government program for condoms</td>
<td>0.82</td>
</tr>
<tr>
<td>*Knows of a government program for condoms</td>
<td>1</td>
</tr>
<tr>
<td>Did not receive free condoms</td>
<td>0.44</td>
</tr>
<tr>
<td>*Received free condoms</td>
<td>1</td>
</tr>
<tr>
<td>Consider yourself at risk of HIV/AIDS</td>
<td>0.53</td>
</tr>
<tr>
<td>*Do not consider yourself at risk of HIV/AIDS</td>
<td>1</td>
</tr>
<tr>
<td>Knowledge that HIV/AIDS is transmitted through sex</td>
<td>21.88</td>
</tr>
<tr>
<td>*Do not know that HIV/AIDS is transmitted through sex</td>
<td>1</td>
</tr>
<tr>
<td>Age</td>
<td>0.97</td>
</tr>
<tr>
<td>Education</td>
<td>Primary</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
</tr>
<tr>
<td>*None</td>
<td>1</td>
</tr>
<tr>
<td>Years since involved in sex work</td>
<td>1.01</td>
</tr>
<tr>
<td>City</td>
<td>Quetta, Balochistan</td>
</tr>
<tr>
<td></td>
<td>Karachi, Sindh</td>
</tr>
<tr>
<td></td>
<td>OR (95% CI)</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Larkana, Sindh</td>
<td>1.56</td>
</tr>
<tr>
<td>Multan, Punjab</td>
<td>0.08</td>
</tr>
<tr>
<td>Faisalabad, Punjab</td>
<td>0.36</td>
</tr>
<tr>
<td>Sargodha, Punjab</td>
<td>0.88</td>
</tr>
<tr>
<td>Lahore, Punjab</td>
<td>0.71</td>
</tr>
<tr>
<td>Rawalpindi, Punjab</td>
<td>0.14</td>
</tr>
<tr>
<td>Peshawar, Khyber Pakhtunkhwa</td>
<td>0.16</td>
</tr>
</tbody>
</table>

*Haripur, Khyber Pakhtunkhwa* 1

| Constant               | 0.45       | 0.0 to 169.07 |
| Model fit statistics   | Prob $> \chi^2$ (22)=96.18; p <0.01 | Prob $> \chi^2$ (23)=97.64; p <0.01 |

Estimation sample N =377 ; * Reference category, and the odds ratio indicates if always using a condom is more than the reference group (>1) or less than the reference group (<1)
Table 3: Logistic regression testing the association between receiving clients from a network operator and always using a condom in Pakistan, 2011, with independent variable type of employment

<table>
<thead>
<tr>
<th>Dependent variable: Always used a condom</th>
<th>Model I Without moderating effect of gender</th>
<th>Model II With moderating effect of gender</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Odds Ratio</td>
<td>95% CI</td>
</tr>
<tr>
<td>Male-to-female transgender CSW</td>
<td>1.04</td>
<td>0.83 to 1.29</td>
</tr>
<tr>
<td>*Female CSW</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Network operator</td>
<td>0.89</td>
<td>0.76 to 1.06</td>
</tr>
<tr>
<td>*Other source of client recruitement</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Network operator x Male-to-female transgender CSW</td>
<td>2.04</td>
<td></td>
</tr>
<tr>
<td>* Other x Female CSW</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Does not know of a government program for condoms</td>
<td>0.82</td>
<td>0.65 to 1.04</td>
</tr>
<tr>
<td>*Knows of a government program for condoms</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Did not receive free condoms</td>
<td>0.30</td>
<td>0.24 to 0.38</td>
</tr>
<tr>
<td>*Received free condoms</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Income, logged</td>
<td>1.12</td>
<td>0.98 to 1.28</td>
</tr>
<tr>
<td>Consider yourself at risk of HIV/AIDS</td>
<td>0.59</td>
<td>0.49 to 0.69</td>
</tr>
<tr>
<td>*Do not consider yourself at risk of HIV/AIDS</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Knowledge that HIV/AIDS is transmitted through sex</td>
<td>4.61</td>
<td>3.21 to 6.62</td>
</tr>
<tr>
<td>*Do not know that HIV/AIDS is transmitted through sex</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>1.00</td>
<td>0.98 to 1.01</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>1.13</td>
<td>0.94 to 1.36</td>
</tr>
<tr>
<td>Middle</td>
<td>1.27</td>
<td>1.03 to 1.57</td>
</tr>
<tr>
<td></td>
<td>Estimate</td>
<td>95% CI</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------</td>
<td>--------------</td>
</tr>
<tr>
<td>Secondary</td>
<td>1.92</td>
<td>1.57 to 2.34</td>
</tr>
<tr>
<td>*None</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Years since involved in sex work</td>
<td>0.98</td>
<td>0.96 to 1.00</td>
</tr>
<tr>
<td>Sex work as only employment</td>
<td>0.93</td>
<td>0.78 to 1.11</td>
</tr>
<tr>
<td>*Other employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quetta, Balochistan</td>
<td>0.22</td>
<td>0.15 to 0.33</td>
</tr>
<tr>
<td>Karachi, Sindh</td>
<td>0.17</td>
<td>0.11 to 0.25</td>
</tr>
<tr>
<td>Sukkur, Sindh</td>
<td>0.03</td>
<td>0.02 to 0.06</td>
</tr>
<tr>
<td>Larkana, Sindh</td>
<td>0.44</td>
<td>0.28 to 0.68</td>
</tr>
<tr>
<td>Multan, Punjab</td>
<td>0.07</td>
<td>0.05 to 0.11</td>
</tr>
<tr>
<td>Faisalabad, Punjab</td>
<td>0.15</td>
<td>0.10 to 0.23</td>
</tr>
<tr>
<td>Sargodha, Punjab</td>
<td>0.18</td>
<td>0.12 to 0.27</td>
</tr>
<tr>
<td>Lahore, Punjab</td>
<td>0.18</td>
<td>0.11 to 0.27</td>
</tr>
<tr>
<td>Rawalpindi, Punjab</td>
<td>0.11</td>
<td>0.07 to 0.18</td>
</tr>
<tr>
<td>Peshawar, Khyber Pakhtunkhwa</td>
<td>0.20</td>
<td>0.13 to 0.32</td>
</tr>
<tr>
<td>*Haripur, Khyber Pakhtunkhwa</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.77</td>
<td>0.17 to 3.45</td>
</tr>
</tbody>
</table>

Model fit statistics

Estimation sample N = 4433; * Reference category, and the odds ratio indicates if always using a condom is more than the reference group (>1) or less than the reference group (<1)
REFERENCES


PAPER 2: STRUCTURAL AND IMPLEMENTATION CHALLENGES TO ACHIEVING GLOBAL HIV GOALS WITH INJECTING DRUG USERS: THE CASE OF PAKISTAN

Hina Khalid and Ashley M. Fox

Manuscript prepared for Health Policy and Planning
ABSTRACT

INTRODUCTION

The Joint United Nations Programme on HIV/AIDS (UNAIDS) set a “90-90-90 target” of having 90% of people living with HIV know their status, receive antiretroviral therapy, and achieve viral suppression by 2020. Rapid scale-up of HIV service delivery is necessary to meet this target, but weak health systems and sub-optimal foreign aid interventions have previously hindered progress. To design policy interventions to enable countries to meet their goals, we elicit the program and contextual challenges faced by HIV programs in Pakistan; Pakistan’s higher than the global average number of HIV positive injecting drug users (IDUs) make it an extreme case for investigation.

METHODS

We interviewed 29 key informants comprising health experts in donor organizations in Pakistan, and government employees in HIV programs across the four provinces. Interviews discussed policies towards risk groups, needle exchange programs, experience working with Non-Governmental Organizations (NGOs), political support, financing arrangements and factors contributing to the concentrated epidemic in the country. Themes were identified inductively through an iterative process. Findings were triangulated with various data sources and existing literature.

RESULTS

Respondents reported structural and implementation challenges in delivering HIV services to IDUs. Structural challenges include limited healthcare infrastructure and resource mismanagement. Implementation challenges stemmed from diverging views among policy
actors on the use of opiate substitution therapy for treating injecting drug users creating low
treatment coverage; a lack of trust between NGOs (who were viewed as vital partners in delivery
of needles to IDUs due to their outreach and the illegality of IDUs) and the government creating
interruptions in service delivery; and low and heterogeneous political commitment for HIV
leading to low resources for the disease.

**DISCUSSION**

Our findings show more broadly the importance of well-developed health system infrastructure
and the need to address implementation challenges to accommodate public health goals such as
the 90-90-90 target.
INTRODUCTION

The Joint United Nations Programme on HIV/AIDS (UNAIDS) has set an ambitious goal of having 90% of all people living with HIV to know their status, receive antiretroviral therapy (ART), and achieve viral suppression by 2020, otherwise known as the 90-90-90 target (UNAIDS, 2014a). This ‘treatment as prevention’ approach is being emphasized because of recent evidence of reduced risk of transmission from individuals who are virally suppressed (Cohen et al., 2016). To meet this new target many countries will have to rapidly scale-up HIV service delivery in an environment where there is a decline in donor funding for HIV (Kates, Wexler, & Lief, 2016). While international goals such as these have the potential to galvanize support and commitment towards concrete health goals (McArthur, 2013), previous HIV targets in the millennium development goals (MDGs) such as achieving reversals in the spread of HIV and HIV-related deaths (Bank & Fund, 2010), and reducing HIV transmission among injecting drug users (IDUs) by 50 percent were not achieved (UNAIDS, 2013).

The mixed success of the MDGs has been attributed primarily to weak health systems in recipient countries (Reich & Takemi, 2009). A health system “consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health”(WHO, 2007). Weak health-system characteristics that impeded the achievement of MDGs include poor capacity and governance capabilities (Langford, 2010; Udaya S. Mishra, 2004; Oya, 2011), low political support, weak accountability mechanisms, and economic constraints (Jolly, 2004). As goal formation in the MDGs was top-down (Jolly, 2004) and focused on short term solutions rather than sustainable structural changes to weak health systems, their influence in shaping outcomes was limited (Bond, 2006; Lay, 2012; Maxwell, 2003; Norren, 2012; Richard et al.,
Additionally, disease-specific donor funding or vertical programs led to uncoordinated activities across multiple sectors (Deaton, 2013; Reich, Takemi, Roberts, & Hsiao, 2008) and they did not help in improving the institutions, public infrastructure and legal capacity of the public sector (Fukuyama, 2004). To the contrary, they often weakened the state provision apparatus by delivering services through the private sector (Deaton, 2013).

In the context of HIV, previous studies highlight that weak health systems can lead to drug-resistant strains of HIV (Esté & Cihlar, 2010), high rates of failed treatment (Coker, Atun, & McKee, 2008) and poor uptake of antiretroviral therapies (ART) preventing mother-to-child transmission during pregnancy (Car et al., 2012). A review of the effect of global health initiatives (World Bank Multi-country AIDS Program, the US President's Emergency Plan for AIDS Relief, and the Global Fund to Fight AIDS, TB and Malaria) on HIV outcomes has found that such initiatives distracted countries from strengthening their health systems by changing government priorities through the imposition of donor implementation conditions. For example, developing new financial and management systems to meet increased and complex reporting and procedural requirements (versus using the existing government systems) led to high transaction costs for those countries. They also increased the complexity of managing different actors as many global health initiatives used both different funding routes and actors for implementation. For example, in some instances NGOs who had low capacity and often low accountability were used for delivering services. Consequently, coming out of the MDGs there have been efforts to strengthen the health system (Adam et al., 2012), including efforts by global health initiatives to better align their activities with local government priorities and systems (Biesma et al., 2009).
While research has identified why previous MDG goals were missed, it does not fully enumerate the challenges developing countries might face in achieving this new target, and the new target’s potential impact on countries’ overall HIV response. To design policy interventions to enable countries to meet their 90-90-90 goals, we elicit the program and the contextual challenges faced by HIV programs in Pakistan, a developing country with a large injecting drug user (IDU) population.

**Setting**

Pakistan is classified as one of the low-middle income countries in South Asia as it’s per-capita gross national index is between $1,026 to $ 4,035 (World Bank, 2016). It has four provinces (Punjab, Sindh, Balochistan, Khyber Pukhtoonkhwa) and a group of federally administered tribal areas. Pakistan is important to study in the context of HIV as local factors and foreign involvement have created an environment that can exert an opposing pull on HIV service provision. It is also an extreme case given the high concentration of HIV among IDUs.

In terms of local factors, Pakistan has a high disease burden and the recent experience with devolution has increased demands on HIV programs (as program administrators have to perform expanded functions). Despite being one of the 20 ‘high-impact’ countries that have 70 percent of the global disease burden for HIV, tuberculosis and malaria (The Global Fund, 2012a), Pakistan missed the HIV targets in the MDGs (UNDP, 2013). In 2015, 100,000 people were living with HIV in Pakistan, and 6,600 were receiving ART. IDUs and sex workers comprise the high-risk HIV groups in the country and within them the largest concentration of HIV is among IDUs. In
2011, the estimated number of IDUs in Pakistan was 46,351 and the prevalence of HIV among them was 27.7 percent (NACP, 2011). This is much higher than the overall global prevalence of HIV among IDUs (13.1 percent) (UNODC, 2014). In addition to high disease burden, disease stigma in the country (BBC, 2011) and the politically contentious nature of the disease hinder HIV treatment and prevention efforts. Second, with devolution in 2011, HIV program administrators have to perform expanded functions and this puts new demands on these programs. As capacity and implementation constrains and corruption were identified as key challenges faced by health departments following devolution, (Khan, Ahmed, Siddiqui, & Sami, 2014) it is likely that such challenges may also have been experienced by HIV programs.

In terms of global pressure, HIV is a sector with heavy foreign involvement. International donor organizations are the largest source of revenue for HIV prevention, treatment and care in the country. In 2015, the contribution of international and domestic sources for HIV program activities was $ 6.36 million and $ 3.63 million respectively (UNAIDS, 2016). The involvement of major donor organizations has changed over time based on shifts in the donor landscape. From 2003-2009, HIV program activities were shaped by the World Bank, through a partnership between the World Bank and the national and provincial HIV programs (the Enhanced HIV/AIDS Control Program) (Emmanuel et al., 2013). With the withdrawal of the World Bank in 2010, the Global Fund8 became the main financer of HIV related efforts; in 2015 it committed approximately $ 27.7 million for HIV efforts in Pakistan for three years. The highest spending is on prevention activities (IDUs being the largest focus of HIV prevention activities) (UNAIDS, 2016), followed by care and treatment. Services to HIV high-risk populations are provided

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8 A donor agency with the mandate to attract, manage and disburse resources through a public private partnership for HIV/AIDS, tuberculosis and malaria in developing countries (The Global Fund, 2012b)
through collaboration between the implementing partners of the Global Fund (The Global Fund, 2017), which for Pakistan are the national AIDS Control program, the provincial AIDS Control programs, and non-governmental organizations (NGOs) (NACP, 2016). NGOs are hired on contracts by the provincial AIDS Control programs through a competitive bidding process (Zaidi, Mayhew, Cleland, & Green, 2012). These NGOs provide needles to IDUs through needle exchange programs and in doing so are at the forefront of harm reduction interventions in the country.

Consequently, local forces (the politically contentious nature of HIV, the country’s recent experience with devolution, and high HIV disease burden among IDUs) and international forces (Pakistan’s place among the high impact HIV countries, donor funding for HIV warranting results, and increased global pressure to meet new targets) have created an environment that can exert an opposing pull on HIV service provision. This makes it interesting to study the types of challenges HIV programs in Pakistan face in achieving the new 90-90-90 targets.

METHODS

Data collection

Participants

Twenty-nine individuals were interviewed (twenty-three semi-structured, key informant interviews and two group interviews) between December and January 2015. Respondents were health and HIV experts in international organizations, and government employees from the national AIDS Control Program and provincial AIDS Control Programs in three provinces: Punjab, Sindh and Khyber Pukhtoonkhwa. Due to security concerns of traveling in Balochistan
to conduct in-person interviews, two interviews with HIV program staff were conducted by phone; more interviews were not arranged.

Respondents from HIV programs were recruited by contacting senior management in the health department, who subsequently referred us to a key informant within the HIV program. Further recruitment of respondents within HIV programs took place through snowball sampling. The number of key informants (that is, individuals who focused on policy formation on implementation) within each HIV program informed the sample size for each HIV program. Respondents for international organizations were recruited by contacting senior management in the organizations, and subsequently being connected to the health or HIV expert within the organization. The number of key international organizations in the HIV landscape determined the selection of international organizations. (See table 1)

**Interview procedures**

One researcher (H.K.) conducted all interviews. The interviews lasted 45 to 90 minutes. They were audio taped and transcribed verbatim where the interviewee consented, and in other instances, field notes were taken. We had two interview guides, one for international organizations and another one for the HIV program employees. The interview guides were developed to generate conversation (Walsh, 2012) and focused on the strengths and challenges faced by the HIV programs. The interview guide for international organizations focused on understanding the scope of the organization’s involvement with HIV, political commitment for HIV across the provinces, and factors contributing to the concentrated epidemic in country. The interview guide for HIV program employees focused on understanding policy evolution, policies towards risk groups, needle exchange programs, experience working with NGOs, political
support, financing arrangements, and factors contributing to the concentrated epidemic in country. (See interview guides in the appendix)

*Human subjects protection*

Participation in interviews was voluntary and identities were anonymized for confidentiality. Prior to the interviews, the objective of the research was explained to all participants, and consent for tape recording was obtained. The University at Albany’s Internal Review Board reviewed the interview guide and deemed it exempt as respondents were official representative of HIV programs who were answering questions in their official capacity.

*Data analysis*

We use interpretivist methodologies. An inductive approach to coding was taken, whereby codes were determined from the data and not determined in advance. First, all transcripts were open coded, reading each transcript line by line and then assigning codes to sentences and paragraphs (Tkatchenko-Schmidt et al., 2010). These codes reflected a theme or an idea that was being expressed in the text. The coding process was iterative and repeated for each interview. After open coding all transcripts, the codes from each interview were reviewed and consolidated into broader, more meaningful categories to form sub-themes, and from them common themes were formed (Emerson, Fretz, & Shaw, 1995; Hewitt-Taylor, 2001). H.K., coded the data while discussing themes and sub-themes with A.M.F., for data validation (Bate, Donaldson, & Murtagh, 2007). (See table 1). For respondent validation, participants were invited to view a draft of the final manuscript.
**Other data sources**

In order to supplement and triangulate our findings and build a more compelling narrative, we used several strategies. First, we analyzed survey data from the population level Integrated Behavioral and Biological Survey for 2006 and 2011 to understand differences in reported receipt of needles by injecting drug users across cities in Pakistan. Second, we reviewed budgetary data provided by HIV programs to determine if their verbal claims on HIV program funding matched the data. Finally, we reviewed existing literature (newspapers, peer reviewed articles, and white papers) in academic and news databases to find additional evidence for the dominant emerging themes on HIV and the health policy environment in Pakistan following our interviews. These three sources of information supplement our analysis in the results section of the paper.

**RESULTS**

Key informants described both structural and implementation challenges. (See table 2) Structural factors refer to contextual and environmental factors that can influence risk behavior or determinants of infections (Blankenship, Friedman, Dworkin, & Mantell, 2006), while implementation challenges refer to challenges that arise in carrying out, accomplishing, and completing a policy (Pressman & Wildavsky, 1984). Although these are distinct challenges, their influence on policy outcomes is interlinked; structural environments can create challenges to achieving goals and they can also shape and influence implementation challenges.

**Structural challenges**

*Weak health infrastructure*
Pakistan’s weak health system was identified as an impediment to effective service delivery. After the 2011 devolution, the provincial health departments faced issues such as structural fragmentation and a lack of technical and managerial capacity (WHO, 2017). Almost all government employees explained that post devolution, there was a need to strengthen the health infrastructure and develop capacity for planning and implementing policy. They highlighted that ineffective blood screening and poor control of hospital infections poses a challenge for the health system including HIV. Highlighting the importance of taking a horizontal versus a vertical approach to addressing HIV, one respondent remarked:

_HIV is not an island and so the work I do is not done in isolation […] When your entire health system functions well, then every communicable disease will be controlled and HIV will be controlled and will be part of that._ (Government employee)

A few respondents highlighted that low health system outreach and capacity had led to an expansion of unregulated private sector providers, called ‘quacks’. These unregulated providers were leading to an increase in the overall level of risk in the system as they often did not take the required safety precautions. Referring below we can see that one of the respondents mentions a specific incident in a city in Punjab, Jalalpur Jutta, where there was a recent HIV outbreak due to an unregulated provider:

_In Jalalpur Jutta a quack was using unsterilized syringes, and this led to a massive outbreak of HIV/AIDS._ (Government employee)

Respondents explained that while there have been several positive developments such as efforts to control quackery, and a disposable syringe act in Sindh to control the re-use of syringes, they have not been successfully enforced due to low regulatory capacity. Such issues related to the risk quackery poses (DAWN, 2010), and the inability to implement anti-

**Resource shortage and mismanagement**

Resource shortages (Emmanuel & Fatima, 2008), poor accounting and auditing arrangements (Narayan, 2000), and resource mismanagement characterize the health sector in Pakistan (Gadit, 2011). A few respondents described that HIV resources were only sufficient to provide services to a very small portion of the IDUs. Almost all respondents in government departments and several respondents in international organizations discussed that a more substantial obstacle to meeting targets than the availability of resources was resource mismanagement. Examples of mismanagement included misplaced resource allocation priorities, and lack of spending capacity due to which funds get lapsed. To quote one respondent:

> What I find frustrating about HIV is that while we are working on the essentials we are also working on the nonessentials. I have come across proposals for funding where they are asking for nutritional support for HIV affected population and school support. [...] (International organization)

The statement above discusses poor resource prioritization. An example of this non-essential spending is provision of financial support for defraying school attendance costs for children of PLHIV.

**Implementation challenges**

*Low political commitment hinders budget allocation and support for needle exchange programs*

Political commitment to address health in Pakistan is very low; in the 2015-2016 fiscal year the government spent 0.5 percent of its GDP on health (Ministry of Finance, 2016). Within low
overall political commitment to health, the provinces focus largely on maternal and child health and on improving the service provision infrastructure (DAWN, 2016; GOS, 2015), and consequently the priority for spending on HIV is very low (Zaidi et al., 2012). Almost all respondents in international organizations and across government departments discussed several reasons for low HIV support. These include: low HIV disease burden in the general population; stigma and discrimination; HIV in competition with other diseases and health conditions, and especially maternal and child health; the lack of a champion for HIV; frequent transfers of government employees which hinders program functioning; and a shift in global focus away from HIV. Concerns expressed over lack of political commitment for HIV are best summarized by one respondent as:

There is no political commitment, and the focus is on polio and nutrition. [...]...
We have done a lot of advocacy in the Ministry, but the Planning Commission is saying that we don’t consider it important. (Government employee)

The statement above highlights that HIV is a low priority for the government and despite advocacy by the HIV program officials, the planning commission (a government organization which determines the focus of government spending in provinces) prioritizes investments in immunization and improving nutrition for women and children.

In addition to low political commitment for HIV among health sector priorities, there are also differences in the use of needle exchange programs and in political commitment across the provinces. At the time of the interviews, needle exchange programs were being implemented in Punjab, Sindh and Balochistan, however, Khyber Pukhtoonkhwa did not have a needle exchange program. A few respondents in the HIV program of Khyber Pukhtoonkhwa highlighted that this
was due to the conservative nature of the Pathans\(^9\) that the program could not be implemented. In terms of differences in political commitment across the provinces for HIV programs, all HIV experts in international organizations ranked Punjab as having the highest commitment to HIV, followed by Sindh, Khyber Pukhtoonkhwa and Balochistan. To triangulate the ranking of political commitment for HIV programs across the provinces by donor organizations, government HIV program respondents were asked to report their own perception of the political commitment for HIV in their respective provinces. To give an example of political commitment, all HIV program respondents in government departments (across the three provinces: Punjab, Sindh and Khyber Pukhtoonkhwa) gave an example of financial commitment to signal support or the lack thereof for the HIV program. They referred to the approval of the financial document, the Planning Commission Form 1 (PC-1) - a work plan document with cost estimates for a project - to signal government support for the program. For Punjab and Sindh, this document had been approved while for Khyber Pukhtoonkhwa it was still pending. Additionally, a key respondent in the HIV program in Khyber Pukhtoonkhwa highlighted that HIV was a very low priority for the government as it was focusing on a reform of the health sector, and so it was plausible that the funding for HIV would be diverted towards these reform efforts. At the time of the interviews, the budget for HIV program activities, the PC-1, had not been approved. The health department of Khyber Pukhtoonkhwa continues to focus more rigorously on reforms of primary health care services (The Express Tribune, 2013), and to date, the PC-1 for the HIV program has not been approved (Farooq, 2016). Information on how successful the approval of the PC-1 in Balochistan had been could not be obtained. Therefore, HIV has low political

\(^9\) Ethnic community who primarily resides in the province
support in terms of health sector priorities and there are differences in political support for HIV programs across the four provinces leading to low budgetary allocations for HIV.

**NGOs necessary for service delivery, but a tense relationship between NGOs and government poses a challenge for service delivery**

Harm reduction services for both IDUs and other risk groups are delivered through NGOs hired on contracts via a competitive bidding process (Zaidi et al., 2012). While most NGOs receive their funding from the provincial HIV programs, following devolution one NGO that serves several cities in Punjab and Sindh is now a direct recipient of Global Fund money (Nai Zindagi, 2012). All government respondents regarded NGOs as essential for HIV programs for two main reasons. First, almost all respondents highlighted that NGOs have extensive outreach in the HIV high-risk communities as many of the NGO workers are also ex-drug users and sex workers. Consequently, service delivery to these populations through NGO workers is the preferred choice as not only do NGO workers know their hot spot areas but as they are also perceived as being from within the communities and these populations do not hide from them. In contrast, the government is considered an outsider who can potentially punish them and so they hide from the government. Second, a few respondents highlighted that as drug users and sex workers are considered illegal and punishable by law, the government overtly cannot provide services to these populations. This is due to the anticipated resistance the government expects it will face from politicians and religious communities if the government is seen providing services to these populations. According to one respondent:

*One of the main issues that we faced was that can we give services to populations that are considered illegal? As a government, can we do that? No, we cannot, and so we chose to go through the NGOs. The second thing is that these are hidden populations and they do not want to come in front of the government, [..]*
The other thing is that these NGOs are deep-rooted, and are very close to the communities. They are ex-sex workers, ex-drug users and have very close relations with these populations. (Government employee)

While the preceding discussion highlights that NGOs are essential for the government for effective service delivery, there are challenges in this relationship. Contracting in Pakistan is a political process and is affected by poor ownership, institutional constraints, and a lack of accountability mechanisms (Zaidi et al., 2012). Almost all respondents who described the importance of NGOs for the government (for reasons discussed above) also expressed a concern regarding ineffective use of government funds by NGOs and suggested that NGOs overstated target achievement. They also demonstrated a general lack of trust towards NGOs. According to one respondent:

With NGOs the government faces a problem, it asks. It doesn’t leave them in an open forest [...] If I have a meeting with donors where we have both government and NGOs, then I will say that yes, give the money there. This is because people ask in government, you have accountability, you can track. (Government employee)

The preceding discussion suggests that while the government needs NGOs, it does not trust NGOs due to a general perception that NGOs cannot be held to the same accountability standards as the government. While interviews with government employees highlighted the importance of the NGOs for the government and the relationship challenges, a few respondents from international organizations ascribed responsibility for the tense relationship between NGOs and the government to both parties. According to one respondent:

This is a problem at both ends and so you cannot blame only one side. [...] Majority of NGOs that work in Punjab [...] they join hands together against the government [...] The government sometimes with a stroke of the pen says that we will finish your funding [...] (International organization)
Consequently, while the government needs the services of NGOs to accomplish its goal of providing services to IDUs, it does not appear to trust them and the NGOs also respond by retaliating against the government. The result appears to be a hostile environment on both sides.

Against this backdrop, possible interruptions in service delivery do not appear surprising. In 2011, service delivery to IDUs (that is, the delivery of clean needles) in several major cities across Punjab was suspended over a difference of opinion between the implementing NGO and the government. The 2012 Harm Reduction International report highlights that disagreement was due to a refusal of the NGO to disclose the identity of the recipients of the services (Stoicescu, 2012). Results from the Integrated Behavioral and Biological Survey (IBBS) show that the disagreement may have led to a reduction in needles received in several cities with large IDU populations. For example, in the 2006 IBBS, 60 percent of IDUs Faisalabad, Punjab, and 75 percent of IDUs in Lahore, Punjab, reported receiving a free needle from an NGO\textsuperscript{10}. However, in 2011, the self reported receipt of needles by IDUs went down to 7 percent and 13 percent for Faisalabad, Punjab and Lahore, Punjab respectively. Therefore, while NGOs and government are essential for each other for delivering harm reduction services, their relationship is an evolving one and is characterized by accountability concerns and a lack of trust which can affect continued service delivery.

\textit{Competing views among policy actors adds complexity to treating IDUs}

\textsuperscript{10} Results from the question did you receive a free needle from an NGO were tabulated. Un-weighted results are reported.
The decision to provide treatment to IDUs is influenced by HIV program employees, physicians and the ministry of narcotics control. Most of the government respondents discussed that to meet global HIV treatment targets, HIV programs aim to provide treatment to the maximum possible number of IDUs. However, these treatment numbers cannot be achieved as physicians are in favor of only providing ART to those IDUs who will adhere to treatment, and are reluctant to put active drug users on treatment over concerns that irregular medicine use could lead to the development of a resistant strain of the virus (Bassetti et al., 1999). Most of the government respondents highlighted that both the increase in ART coverage and physician concerns of adherence to ART could be simultaneously achieved if the use of opiate substitution therapy (a replacement drug which is administered in clinical settings to counter opiate dependency among drug users) is introduced in Pakistan. World over the use of opiate substitution therapy has been shown to improve adherence to ART (Bergenstrom et al., 2015)). However, the ministry of narcotics control has banned the use of opiate substitution therapy despite advocacy by HIV program employees due to concerns of drug pilferage. The Anti Narcotics Force and the Ministry of Narcotics control are against opiate substitution therapy due to concerns over drug pilferage (Rana, 2014) as Pakistan is one of the trade routes for heroin. Drawing parallels with Iran, a country which like Pakistan has a huge injecting drug user population, one respondent remarked:

_They are saying that this drug will slip, and there will be leakage in the market. We tried to convince them 600000 people in Iran are on methadone treatment […] but our Ministry doesn’t agree with it._ (Government employee)

Consequently, HIV programs focus on providing treatment to IDUs living with their families, and not active drug users living on the streets, as they are easier to track. However, this excludes a large portion of IDUs from treatment; according to data from the 2011 IBBS survey, 45 percent
of the IDUs live with their families, 48 percent were street-based and 7 percent lived in
guesthouses and hotels. Therefore, Pakistan cannot comply with the ‘prevention for all’
treatment guidelines. One respondent remarked:

>You have all IDUs, and so I can’t even put 40 percent of my patients on treatment.
UNAIDS/WHO guidelines for 2016 are, treatment for all. In Pakistan as we have
a high proportion of IDUs we can’t really implement this.” (Government
employee)

Therefore, while HIV program employees strive to achieve global targets, only a small
portion can be provided treatment in the absence of opiate substitution therapy which is
banned by the Ministry of Narcotics Control.

**Challenges with treating spouses of injection drug users**

A recent study on Pakistan has also found female spouses of IDUs found to be at moderate risk
of HIV (Ahmad et al., 2011). A few respondents in government departments expressed similar
concerns regarding the spread of HIV from the IDUs to their spouses. According to one
respondent:

> [...] We will not be able to revert prevalence in IDUs till we get to a cut-off point
where the infection is contained. Here it is being passed on to their wives.
(Government employee)

One respondent explained that while programs for spouses of HIV positive injecting drug users
had been introduced, there appeared to be problems in linking spouses to care, as the infection
was continuing to spread in this population. Consequently, in order to control HIV in the
country, there is a need for controlling the spread of HIV among the spouses of IDUs and
improve linkage to care.

**DISCUSSION**
Using Pakistan as a case, we explored the challenges to achieving the 90-90-90 target in a country with an opioid-driven epidemic. Previous research on missed development goals highlights that weak health systems can be an impediment to achieving goals (WHO, 2007) and here we find that both structural (weak health system) and implementation challenges can act as barriers to achieving the target.

Our findings at the structural level support this existing literature, as we find that such issues persist. Unregulated private providers pose a major challenge to health systems, especially in developing countries where they cater to low-income populations. Such providers tend to have poor physical standards and unethical practices (Bhat, 1993; Dilip, 2010; U. S. Mishra & Ramanathan, 2002). Unlicensed providers such as quacks also use unsubstantiated claims to bring patients into treatment (Aslam & Zubair, 2015). Therefore, in recent years there has been discussion on the need to improve and integrate the informal sector in developing countries into the health system (Ahmed, Hossain, & Chowdhury, 2009; Anne Mills, Brugha, Hanson, & McPake, 2002). Our findings on poor infection control and unregulated providers posing a challenge support this existing literature. Furthermore, our findings on poor financial management echo previous research that highlights the importance of improved financial systems for ensuring better management of resources in order to achieve a reduction in resource wastage (McCoy, Hall, & Ridge, 2011).

Our findings add to the existing literature by highlighting that goal achievement can also be hindered by implementation challenges that stem not only due to input constraints, but also due to interactions between different power structures, and interdependencies between actors in
policy implementation. Our findings support this overarching theme in several ways. First, existing HIV literature on service provision for IDUs focuses on barriers to access to treatment by IDUs. These include individuals’ psychological state of mind, stigmatizing attitudes, poor information regarding the availability of treatment, and a lack of services to deal with drug user demand leading to long waiting lines. (Aceijas, Hickman, Donoghoe, Burrows, & Stuikyte, 2007; Heimer, Bluthenthal, Singer, & Khoshnood, 1996; Neale, sheard, & Tompkins, 2007; UNAIDS, 2014b). However, here we find that an inability to provide treatment to the entire population of IDUs is due to the fact that the epidemic is concentrated among IDUs who have low adherence to treatment and consequently physician reluctance on treating them in the absence of opiate substitution therapy (which has been banned by the ministry of narcotics control).

Second, we find that contractual relationships between government and NGOs can also lead to problems in delivering services to IDUs. The use of contracting in health has gained prominence in recent years with the increasing importance of scaling up programs for HIV/AIDS and malaria; growing dissatisfaction with centrally provided services; and shortage and underperformance of public personnel and a preference for using private providers (Liu, Hotchkiss, & Bose, 2008). There are examples of wide scale contracting in many countries including Afghanistan, Bangladesh, Cambodia, Guatemala, Haiti and India (Liu et al., 2008)) in a number of areas such as primary health care (Liu et al., 2008), dietary services in hospitals, hospital security, cleaning, provision of medical equipment (A. Mills, 1998), and in addressing malnutrition (Marek, Diallo, Ndiaye, & Rakotosalama, 1999). Such studies have focused on understanding if contracting leads to better service provision (Liu et al., 2008), and have raised
some questions regarding the need for government to regulate private provision due to issues in
distribution, quality and price of private health services (Kumaranayake, Mujinja, Hongoro, &
Mpembeni, 2000). However, in contrast to the administration literature, the health literature
gives little attention to the complexity government and NGOs face in managing their
relationship. Such challenges have received attention in the administration literature, which
discusses that the relationship between NGOs and the government is often governed by hostility
and mistrust, as they can have competing ideologies and unequal power sharing (Batley, 2006;
Mcloughlin, 2011). Delayed payments, lack of accountability, and other contracting issues have
complicated the relationship between NGOs and the government in Pakistan (Zaidi et al., 2012).
Our findings support existing literature by highlighting that there is a need for both NGOs and
the government to work towards building a more amiable relationship to ensure effective service
delivery. Our study highlights a situation where service delivery was suspended due to an
inability of the government and an NGO to reach an agreement, and not due to a shortage of
needles, or stock outs. Our findings also highlight that while there is a lack of trust between
NGOs and government in managing this relationship, contracting is necessary because of NGO
outreach and the illegal status of the population they serve.

Finally, while the HIV literature in the context of developed countries highlights that there are
political challenges in delivering HIV services, such as laws banning syringe disbursal
(Bluthenthal, 1998; Bray, Lawson, & Heimer, 2001; Heimer et al., 1996; Tempalski et al., 2003;
Tempalski, Friedman, Keem, Cooper, & Friedman, 2007), little attention has been given to such
issues for developing countries. Our findings highlight that despite low political commitment,
Pakistan did adopt a relatively effective needle exchange program. However, the overall low
political commitment for HIV, a heavy reliance on donor funding for HIV, delays in budget approval and budget preferences for other diseases are consistent with other studies on Pakistan that discuss that political interference, vested interests and patronage in Pakistan influence the functioning of the health system in Pakistan (Sax & Marx, 2014). Taken in aggregate, these findings highlight that politics between actors in the policy landscape affects service provision: an inability to implement opiate substitution therapy, suspension of NGO services and political preference of budget utilization are all examples of how politics between actors can alter policy implementation.

There are several implications of our findings. Previous studies have shown that over time, global health initiatives have revised their processes, aligned their approaches with governments, and are also working with countries to help streamline their monitoring and evaluation processes (Biesma et al., 2009). Additionally, provision of funds for training of employees is considered one of the positive effects of global health initiatives (Biesma et al., 2009). However, while recent interventions target health system strengthening (Adam et al., 2012), little attention has been given to strengthening leadership and governance across the health system. Our findings imply that focusing attention on collaboration and coalition building across different government sectors and actors outside the government – one of the components of leadership and governance - can help in creating a more enabling environment (WHO, 2007). Our findings, therefore, support a recent suggestion that health system strengthening should focus not only on improving inputs, but also on tailoring the health reform to match the local context (resources, administrative features, priorities) and governance, as political barriers can prevent the uptake of innovative systems (Reich et al., 2008). Several suggestions from our respondents such as
effectively engaging government, and creating champions to garner support for HIV also point to this. Previous research has also shown that champions are an effective strategy to get things on the policy agenda (Pradhan et al., 2012).

Our study has several limitations. We were only able to interview two respondents from the Balochistan HIV program due to security concerns, and were unable to arrange interviews with NGO outreach workers. The perspectives of NGOs workers – street level bureaucrats – could potentially have added diversity to the types of implementation challenges we found. Finally, there was only one interviewer and coder for the study and this could lead to researcher bias. However, an effort was made to overcome this through a review of codes by the second author as well.

CONCLUSION

We examined the program and contextual challenges faced by HIV programs in Pakistan, to better identify where they need to focus their efforts to achieve the new 90-90-90 target. We find both structural and implementation challenges to achieving these targets. The structural challenges reinforce the need for health system strengthening. The implementation challenges stem largely due to politics between actors that is interactions between different power structures, and interdependencies between actors in policy implementation. They suggest a need for focusing attention on collaboration and coalition building across different government sectors and with actors outside the government. This will require HIV programs to invest more heavily in leadership and governance. Future work can explore implementation challenges faced by NGO workers in delivering services, and can examine the relationship between health outcomes,
and leadership and governance.
## Table 1: Breakdown of interviews

<table>
<thead>
<tr>
<th>Respondent type</th>
<th>Mode of inquiry</th>
<th>Designation of interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal Government</strong></td>
<td></td>
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</tr>
<tr>
<td>National AIDS Control Program</td>
<td>2 in-person semi-structured interviews</td>
<td>Program management and staff</td>
</tr>
<tr>
<td><strong>Provincial Governments</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punjab AIDS Control Program</td>
<td>5 in-person semi-structured interviews</td>
<td>Program management and staff</td>
</tr>
<tr>
<td>Sindh AIDS Control Program</td>
<td>5 in-person semi-structured interviews; 1 in-person semi structured group interview (4 participants)</td>
<td>Program management and staff</td>
</tr>
<tr>
<td>Khyber Pukhtoonkhwa AIDS Control Program</td>
<td>1 in-person interview; 1 email interview; 1 in-person semi structured group interview (6 participants).</td>
<td>Secretary health, program management and staff</td>
</tr>
<tr>
<td>Balochistan AIDS Control Program</td>
<td>2 phone interviews</td>
<td>Program management and staff</td>
</tr>
<tr>
<td><strong>International Organizations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>5 in-person semi-structured interviews; 2 phone interviews with respondents from 6 international organizations</td>
<td>Health experts and advisors</td>
</tr>
</tbody>
</table>

*Source: Authors own tabulation*
### Table 2: Factors influencing achieving the 90-90-90 target for IDUs and their interconnections

<table>
<thead>
<tr>
<th>Overall policy environment</th>
<th>Structural challenges</th>
<th>Implementation challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Low health budget</td>
<td>- Limited health care infrastructure and unregulated providers</td>
<td>- Limited &amp; heterogeneous political commitment for HIV</td>
</tr>
<tr>
<td>- Country is a drug route for Afghanistan and so a large number of drugs and drug users</td>
<td>- Resource mismanagement and shortage</td>
<td>- NGO-government relationship challenges complicate service provision</td>
</tr>
<tr>
<td>- HIV risk groups (IDUs and sex workers) illegal populations Maternal and child health and other diseases focus of government efforts</td>
<td></td>
<td>- Challenges to treating IDUs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Spouses of HIV-infected IDUs are becoming infected with HIV</td>
</tr>
</tbody>
</table>

*Source: Authors own synthesis of information*
REFERENCES


Islamabad, Pakistan: National AIDS Control Program.


Appendix

Table: 1 Themes, sub-themes and final codes

<table>
<thead>
<tr>
<th>THEME 1</th>
<th>POOR HEALTH INFRASTRUCTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sub-theme 1</strong></td>
<td>Weak system</td>
</tr>
<tr>
<td>Code 1: Infection control</td>
<td>There is discussion on blood supply contamination, general control of hospital infections, blood screening</td>
</tr>
<tr>
<td>Code 2: Tatoos</td>
<td>Infection spread through tattoos and piercings</td>
</tr>
<tr>
<td><strong>Sub-theme 2</strong></td>
<td>Unregulated providers</td>
</tr>
<tr>
<td>Code 1: Quacks and Atari doctors</td>
<td>Discussion is on quacks and Atari doctors leading to infection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THEME 2</th>
<th>RESOURCE PROBLEMS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sub-theme 1</strong></td>
<td>Resources not scarce</td>
</tr>
<tr>
<td>Code 1: Resources not insufficient</td>
<td>There is discussion on resources not being scarce</td>
</tr>
<tr>
<td><strong>Sub-theme 2</strong></td>
<td>Resource management problems</td>
</tr>
<tr>
<td>Code 1: Under spending</td>
<td>There is discussion on poor spending capacity and lapse of funds</td>
</tr>
<tr>
<td>Code 2: Non-essential spending</td>
<td>Spending on non-essentials and lack of strategic spending</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>THEME 3</th>
<th>LIMITED POLITICAL COMMITMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sub-theme 1</strong></td>
<td>Low commitment to HIV</td>
</tr>
<tr>
<td>Code 1: Maternal and Child health</td>
<td>Maternal and child health has higher priority</td>
</tr>
<tr>
<td>Code 2: Other infectious disease</td>
<td>Other infectious diseases have higher priority for example polio, nutrition</td>
</tr>
<tr>
<td>Code 3: Low government commitment</td>
<td>Discusses low government commitment in general</td>
</tr>
<tr>
<td><strong>Sub-theme 2</strong></td>
<td>Heterogeneity in political support for needle programs and political support across provinces</td>
</tr>
<tr>
<td>Code 1: International organization ranking</td>
<td>This involves a simple ranking of provincial commitment to HIV</td>
</tr>
<tr>
<td>Code 2: Government views</td>
<td>These are statements from government employees that give a sense of political commitment or the lack there-of for HIV and needle programs</td>
</tr>
<tr>
<td>Code 3: PC-1 amounts</td>
<td>This is a discussion on the finances allocated by the government for HIV and also gives the actual amount</td>
</tr>
<tr>
<td>THEME 4</td>
<td>NGO-GOVERNMENT DYNAMICS</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td><strong>Sub-theme 1</strong></td>
<td><em>Hostility and mistrust between NGOs and government</em></td>
</tr>
<tr>
<td>Code 1: Accountability concerns</td>
<td>Accountability concerns with regards to budget utilization are being discussed</td>
</tr>
<tr>
<td>Code 2: NGOs not doing enough</td>
<td>Discussion focuses on sub-optimal NGO performance</td>
</tr>
<tr>
<td>Code 3: Problems on both sides</td>
<td>One respondent discussed this, and said there was a need for NGOs and government to treat each other like partners.</td>
</tr>
<tr>
<td><strong>Sub-theme 2</strong></td>
<td><em>NGOs have outreach and capacity that government doesn’t have</em></td>
</tr>
<tr>
<td>Code 1: Outreach</td>
<td>Discussion centers on the outreach of NGOs in communities</td>
</tr>
<tr>
<td>Code 2: Capacity</td>
<td>Discussion is on how public-private partnership is a good thing as government does not have certain capabilities and capacity</td>
</tr>
<tr>
<td><strong>Sub-theme 3</strong></td>
<td><em>NGOs important as nature of work is illegal</em></td>
</tr>
<tr>
<td>Code 1:</td>
<td>Discussion is on how the government cannot be seen doing illegal work and so NGOs are chosen</td>
</tr>
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<table>
<thead>
<tr>
<th>THEME 5</th>
<th>PROCEDURAL NGO INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code 1: Recruitment</td>
<td>Discussion centers on how NGOs are recruited</td>
</tr>
<tr>
<td>Code 2: Service provision</td>
<td>Discussion centers on the harm reduction services they provide</td>
</tr>
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<tr>
<th>THEME 6</th>
<th>ORAL SUBSTITUTION THERAPY BANNED BY NARCOTICS CONTROL</th>
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<tbody>
<tr>
<td>Code</td>
<td>Oral substitution banned by narcotics control</td>
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<tr>
<th>THEME 7</th>
<th>TREATMENT CHALLENGES FOR IDUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code 1: Easy to identify</td>
<td>They are easily identified at their hot spot areas</td>
</tr>
<tr>
<td>Code 2: Tough to treat</td>
<td>Discusses treatment issues as they are not in their correct mental state, loss to follow up, low adherence to medication and so physicians don’t want to out them on treatment</td>
</tr>
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<tr>
<th>THEME 8</th>
<th>IDUs PASSING VIRUS TO THEIR SPOUSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code: Spouses</td>
<td>Discussion is on transmission of the virus, risk of transmission to spouses, and poor linkage to care</td>
</tr>
</tbody>
</table>
Appendix?: Interview guide for international organizations

1) Explanation of the purpose of the interview; discuss informed consent and confidentiality; get verbal permission to tape record.

2) Grand tour question
   - What is your position title and can you briefly describe your main duties?
   - For how long have you been at the organization?

3) Understanding HIV/AIDS from the perspective of the international organization

   **Understanding the policy over all**
   [From a birds eye view perspective, lets first talk a bit about the over all HIV/AIDS policy]
   - What is your understanding of the main features of the HIV/AIDS policy of the government in the provinces you work in?
   - Can you tell me how this policy evolved?
   - There were a number of stakeholder involved in forming the policy, so was there a lot of disagreement?
   - Where is this policy going? Are there some changes on the horizon?
     - Probe: Do you think the policy is oriented towards treatment verses control? One risk group verses another?
   - Do you think there should be a focus on something and it is not?

   **Understanding the scope of the organizations involvement**
   - Which provinces do you work in?
   - Would you consider yourself to be a main actor in the HIV/AIDS field?
   - What are your interventions and who are your interventions targeted towards?
     - Probe: What types of projects are you more focused on? [advocacy, treatment, care, capacity building]
     - Probe: Are you involved in the harm reduction activities with NGOs or the government in any way? Different risk groups – SEP programs, IDUs, sex workers? [Probe: Ask about tamer project for DFID - this was a capacity building project for NGOs.]
   - How was it chosen to target the policy towards (group they mention)?
   - Do you have input in the overall HIV policy formulation? Implementation? Program expansion? Of provinces?
   - What are some of the challenges you face in terms of implementing the policies/programs? How are they similar / different across the provinces?

   **Devolution**
   - How did the scope of your activities change following devolution?
   - Who do you mostly coordinate with now?

   **Financing**
   - Can you walk me through how the funding process works?
     - Do you provide financing for HIV/AIDS?
What do you provide the largest share of funding for? [type of activity; risk groups]
What do you provide the smallest share of funding for? [type of activity; risk groups]
Who decides how much funding will go where?
Does disbursement of funding involve discussion with the receiving agency or do you have set priorities and goals that you have to meet?

To get at budgetary commitment
- Compared to other programs you fund, how would you compare HIV/AIDS funding?
- Who do you provide the highest share of funding for, and in what province mostly?
- Please can you share these estimates with me?
- What are some of the factors that made you allocate money in this way?

To get at expressed commitment
- Have political leaders in the provinces shown support for HIV/AIDS program – your efforts?
- How has this changed over time?
- Have they done something to support one risk group more or less than another?
- Which disease do you think they give most attention to?
  - Which of the following do you think they consider bigger problem. Rank the following in order of importance (1 most important; 5 least important): HIV/AIDS; viral hepatitis; tuberculosis; maternal and child welfare; Condition overall health care system
- Would you also rank them did you order them in this way?

To get at institutional commitment
- Do you think there is institutional commitment across the provinces for addressing HIV/AIDS?

Causes of HIV/AIDS increasing
- What would you list as being some of the main reasons behind why HIV/AIDS is increasing in the country? [Probe: media attention, system failure; stigma, nature of the epidemic – it is concentrated among IDUs, HIV/AIDS is sensitive]
- Do you think one risk group gets more preferential treatment as compared to the other?
- What do you think about the media campaign regarding HIV/AIDS? Is there even a media campaign?
  - Do you think that the media has done its due part in creating awareness about HIV/AIDS? Have there been any media campaigns in the recent past?
What do people think in general
- Working in the field, or through your general knowledge do you think the general population perceive someone living with HIV/AIDS in a negative or positive light? Do they perceive risk groups in the same way? Different way?
- Is there something in the HIV/AIDS policy that really bothers you? You would like to change?
- What do you like about the way HIV/AIDS policy works?
- So we keep hearing that aid has not been effective, why do you think this is the case?

Policy advocates and champions
Is there a high level advocate or champion who promotes HIV/AIDS issues?
Are there any civil society groups that promote HIV/AIDS issues?

4) Conclusion
- Before we finish our discussion, do you have any other comments about the HIV/AIDS program that we have not yet discussed?
- Are there any individuals who you think we should talk to about this?
- I hope that we can get back to you with additional questions if they arise. Is that okay with you?
Interview guide for government employees

Title: Understanding the policy response to HIV/AIDS in Pakistan
PI: Hina Khalid

1) Explanation of the purpose of the interview; discuss informed consent and confidentiality; get verbal permission to tape record.

2) Grand tour question
   - What is your position title and can you briefly describe your main duties?
   - For how long have you been at the department

Understanding policy evolution

1. What are the main features of the HIV/AIDS strategy of the province after 2011 (devolution)?
2. Can you tell me how this strategy evolved (compared to the strategy before devolution)?
3. Do you think your department is equipped to handle changes post devolution?
4. What are some of the issues you confront on a daily basis in policy implementation?
5. Is there some type of policy coordination between the national and the provincial government? Do both take some types of specific roles? Do you coordinate with other provinces?
6. Are there areas where you would like more input from the national government?
7. What role do donor organizations play?
   - Formulation? Implementation?
8. A number of stakeholders have been listed in formulating the HIV/AIDS strategy: NGOs, government officials, special working group, PLHIV
   - Was there a lot of disagreement in formulating the policy?
   - In your estimation, how cohesive would you say are the proponents of these policy solutions? [By cohesive I mean the degree to which the community agrees on the definition, causes and solutions to the problems]
9. Where is this policy going? Are there some changes on the horizon?

Broader umbrella

1. How does the current HIV/AIDS policy fit into the broader umbrella of HIV related disease care?
2. Is there more emphasis on HIV treatment verses prevention?

Target group

The AIDS strategy is targeted towards IDUs, sex workers, Maternal and children

1. Within these risk groups are there any that are perceived in a better way as compared to the other?
2. Is it more easier/harder to target policies and treatment towards one group as compared to another?
Syringe exchange programs

1. So, the policy with regards to injection drug users in the province involves Syringe Exchange Programs.
   a) Can I get some information on the number of syringe exchange programs that are currently in place and functional in the province?
   b) What is their size? Scope?

2. It appears that NGOs are the major stakeholders in delivering clean syringes to injection drug users.
   a) What are some of the challenges faced by syringe exchange programs?
   b) What are some of the successes of the syringe exchange programs?
   c) Can you please let me know who I can talk to better understand the functioning of SEP programs? Can you connect me to some NGOs?

Other risk groups (sex workers)

1. What is the policy with regards to sex workers? Please can you walk me through it’s main features.
   - Is this also implemented through NGOs?
2. What are the main challenges faced in implementation/planning?
3. Do you think that it is easier or harder to target prevention policies towards these risk groups as compared to IDUs?
   a. What are some of the reasons for this?

A. Budgetary commitment

1. Does the government have a PC-1?
2. What is the overall resources/expenditure/budget available for HIV/AIDS interventions? Please can you share these estimates with me?
3. Can you please share them with me over time (going as far back as is possible)
4. Is it possible to rank order the risk groups from highest to lowest share of funding?
5. Can you walk me through how a decision is made to allocate money in this way?
6. Is it first by risk group and then by type of activity?

Funding

1. Who are the main donor organizations for HIV/AIDS funding?
2. Do you think international organizations are funding those aspects of HIV/AIDS that they should be financing?
3. Would you like them to consult you more or is this something they already do?

B. Expressed commitment

1. Have political leaders shown support for HIV/AIDS program?
2. If yes, why? If not why?
3. How has this changed over time?
4. Do all risk groups get equal treatment?
3. Is there some other disease that gets more attention than HIV/AIDS?
5. Please rank the following in order of importance (1 most important; 5 least important):
   HIV/AIDS; viral hepatitis; tuberculosis; maternal and child welfare; something else;
   Condition overall health care system)
6. Why did you order them in this way?
7. If the government had extra $ do you think they would spend on them in the order in
   which you have ranked them?

C. Institutional commitment

1. What are the number of programs that provide services to IDUs? To sex workers?
   Maternal and child health?
2. What were some of the factors that led to a difference in number of programs across risk
   groups?
3. Is the HIV/AIDS strategy part of the national health policy/plan?
4. Is the right to HIV/AIDS enlisted in the national legislation?
5. Is there some mechanism that coordinates HIV/AIDS programming?

Are/ How are policies coordinated between HIV/AIDS and Viral hepatitis, HIV/AIDS and
Tuberculosis, HIV/AIDs and maternal and child health policies?

Focusing events and public attention

1. Have there been any major events in the last year that have drawn particular attention to
   HIV/AIDS problems in the country in the last few years?
2. How much attention do you think HIV/AIDS has received in the media?
3. Has the media played it’s role in increasing awareness about HIV?
4. How would you compare this to Hep C? TB?
5. Are there any information campaigns for the general population? Who do they target?

Overall

8. What do you think despite all efforts HIV/AIDS is increasing in the country? What are
   some of the reasons why this might be the case?

Conclusion

1. Before we finish our discussion, do you have any other comments about the HIV/AIDS
   program that we have not yet discussed? Something you think I have missed out and
   should have focused on?
2. Are there any individuals who you think I should talk to about this?
3. I hope that we can get back to you with additional questions if they arise. Is that okay
   with you?
4. Please can you share (i) the AIDS strategy of the province, (ii) budgetary allocations for
   HIV/AIDS and (iii) any other written material that you think might be helpful?
PAPER 3: FRAMING AND STIGMA: THE CASE OF MISPLACED HIV UNDERSTANDING IN PAKISTAN

Hina Khalid

Manuscript prepared for Health Policy and Planning

Acknowledgements: The author is grateful to Dr. Patricia Strach for her guidance and comments on earlier drafts of the paper.
ABSTRACT

Background
While world over HIV stigma has been shown to be a barrier in HIV testing and treatment, research on how the disease is understood has focused on countries where primary mode of transmission is sexual. Little attention has being given to how it is understood in countries where injecting drug users (IDUs) are the main vectors of disease transmission. Focusing on Pakistan (an extreme case HIV concentration among IDUs) I examine how HIV and viral hepatitis, diseases that have predominantly similar modes of transmission (IDUs) in the country yet varying levels of stigma, are understood, what stigma means and the consequences stigma has for HIV programs seeking to provide services to people living with HIV (PLHIV).

Methods
This is a multi-method study. To determine the key frames used for understanding HIV and viral hepatitis in Pakistani newspapers, I did a content analysis of a random sample of articles (10 percent of the HIV articles and 5 percent of the hepatitis articles) by developing a fixed-coding guide. To develop a deeper, qualitative understanding of how the diseases are understood and what stigma means I used thematic analysis of newspaper articles in frames that appeared exclusively for HIV news stories. Additionally, I conducted 29 key informant interviews with health experts in donor organizations and government employees in HIV programs across the four provinces in Pakistan. Themes for both the thematic newspaper analysis and interviews were identified inductively.

Results
The findings highlight that although both diseases are spread through IDUs there is a difference in how they are understood; hepatitis is understood only as medical disease but HIV becomes a
stigmatizing character trait. Therefore people with viral hepatitis openly disclose their status and seek treatment while PLHIV hide their HIV status. HIV is stigmatized by attributing it to immoral, un-Islamic behavior (for example: extra-marital sex and homosexuality) and by linking it to death. To counter testing and treatment challenges posed by HIV stigma, HIV programs are focusing on creating increased disease awareness.

**Discussion**

The findings highlight that disease understanding poses a problem for HIV testing and treatment, suggesting a need to develop a counter narrative that can potentially emphasize HIV as a medical illness like hepatitis, and also clarify that the dominant mode of disease transmission in the country is not sexual. Such efforts can help in mitigating some of the stigma attached to the disease thereby improving service provision by HIV programs.
INTRODUCTION

According to UN Secretary-General Ban Ki-moon, stigma is the main barrier to public health action around HIV because it is the primary reason people do not seek treatment. This makes HIV a silent killer as people fear societal disgrace with declaring their HIV status (The Washington Times, 2008). Stigma can be thought of as a reputation, a behavior or an attribute that is socially unfavorable in some way. It leads to the individual being categorized as undesirable and rejected in society in comparison to other people (Goffman, 1963).

Stigma from a disease can be the outcome of how the disease is understood and this understanding comes from the frames used for discussing the disease. Research suggests that the framing of a disease not only influences the attention it receives on the global health agenda (Shiffman, 2009), but also influences how individuals and societies respond to the health problem. For example, to keep HIV on the global health agenda it has been framed both in the global health literature and by organizations such as the Joint United Nations Programme on HIV/AIDS (UNAIDS) as a public health issue, an international peace issue, a human rights issue (Rushton, 2010; Shiffman, 2009), a security issue and an international development issue (Rushton, 2010; Shiffman, 2009; Woodling, Williams, & Rushton, 2012). Framing is a process in which problems are defined and solutions are suggested (Gounder, Gounder, & Cornelius, 2016). Policy frames have been described as ‘weapons of advocacy’ (Weiss, 1989) as by emphasizing certain aspects of an issue (Entman, 1993) they help in making sense of reality (Colombini et al., 2016; Koon, Hawkins, & Mayhew, 2016). Common to framing is the constructivist perspective that reality is constructed through social interactions and is not objectively discovered (Berger & Luckmann, 1967; Shiffman, 2009). Media sources also play an
important role in framing as they provide a frame for understanding an issue (Nelkin, 1991; Swain, 2005). In doing so they influence the perception and response of the public (Colby & Cook, 1991; Scheufele, 1999) (Ratzan, 1992) and policy makers (Colby & Cook, 1991) and can also reinforce existing views of people (Nelkin, 1991). Consequently, media promotes and influences the response of a society to disease (D’Angelo, Pollock, Kiernicki, & Shaw, 2013) and media reporting itself is influenced by information from different advocacy groups and the biases, stereotypes and interpretations of journalists themselves (Nelkin, 1991).

While there are two most dominant modes of HIV transmission - sexual and injecting drug use - research on how HIV is understood has focused on countries where the disease has primarily been transmitted through sexual contact. The focus especially includes countries such as the United States (where the disease was first detected) and countries such as Nigeria, Zimbabwe and Kenya in sub-Saharan Africa (where it ravaged populations) (Jacobs & Johnson, 2007; Kiwanuka-Tondo, Albada, & Payton, 2012; LaVail, 2010; Lubinga, Schulze, Jansen, & Maes, 2010; Spence, 2010; Stevens & Hull, 2013). Research on HIV in the United States suggests that HIV was reported (Kuller & Kingsley, 1986) and defined as a disease that could be spread through heterosexual sex (Nelkin, 1991), and the organized gay movements transformed them from individuals responsible for spreading the disease to owners of the disease (Colby & Cook, 1991). Similarly, in sub-Saharan Africa, HIV was spread through heterosexual sex, with prostitution and extra marital sex playing a huge role (Hoffmann, Fooks, & Messer, 2014; van de Walle, 1990). Alongside the understanding of HIV as a sexually transmitted disease, the disease was stigmatized by linking it to moral and political bias both in terms of sexuality and homosexuality (Kinsella, 1992). It was assumed PLHIV were immoral, sexually promiscuous and
had dangerous lifestyles (Nelkin, 1991). Consequently, personal blame owing to risky individual behavior was ascribed to PLHIV (Fox, 2005; Winskell, Hill, & Obeyedhyambo, 2011). In Africa HIV was additionally attributed to witchcraft and women were blamed for spreading it (van de Walle, 1990). The moral tone of HIV coverage stigmatized individuals who had HIV in the US (Nelkin, 1991) and in Africa as well, where it was framed as a problem of ‘sinners’ turning them into the symbolic other (Campbell, Skovdal, & Gibbs, 2011). Therefore media coverage provided solutions to preventing HIV by stressing on monogamy and abstinence (Nelkin, 1991). Fear of HIV (in that it led to death of an individual) affected public policy (Fox, 2005). Consequently, the initial framing of HIV where it was lumped together with sexually transmitted diseases and was not reported as a viral disease like hepatitis (Nelkin, 1991) and its connection to homosexuality made the disease very controversial, as compared to if it had only been addressed and treated as a medical problem (Colby & Cook, 1991). The perception that an individual who has HIV will have engaged in socially deviant behavior led to stigmatization of PLHIV (Alonzo & Reynolds, 1995). Over time, with the increasing use of anti-retroviral treatment, HIV is now understood as a chronic illness and increased awareness of modes of HIV transmission have helped in reducing (but not eliminating) some HIV stigma in the US. However, stigma is still much higher in Africa where the disease is an acute illness due to a lack of funds for scaling up treatment (Bayer, 1992).

While previous research on how HIV is understood and what stigma means has focused on countries where the dominant mode of transmission is sexual11 (D’Angelo et al., 2013; van de Walle, 1990), little attention has been given to understanding the disease in countries where it is

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11 Here I provide examples from the United States and Africa
primarily transmitted through injecting drug users (IDUs). In such countries (for example Iran, Malaysia and Indonesia) efforts to reduce HIV stigma have focused on emphasizing the prevalence of HIV among IDUs whilst downplaying sexual transmission (Kamarulzaman, 2013). However, attention has not been given to how HIV is understood or what stigma means\(^\text{12}\) and focus has largely been on communicating the non-sexual aspects of disease transmission. Such a focus leaves open the question of how HIV is understood in countries with large injecting drug user populations and what HIV stigma means.

I use Pakistan, a country located in an opioid-producing region to study how HIV is understood and what stigma means, and I compare the understanding of HIV to that of viral hepatitis. I focus on Pakistan and compare HIV to viral hepatitis for the following reasons. First, Pakistan has a large number of HIV positive IDUs which makes it an extreme case for studying how HIV is understood in a country with a large IDU population. Second, injection drug use is the main source of both HIV and viral hepatitis transmission. However, while drug users are a generally a stigmatized population in the country, previous research highlights that there is stigma attached to HIV (UNAIDS, 2017) but there is no stigma attached to viral hepatitis. Stigmatization of HIV and not viral hepatitis suggests there is something about HIV and stigma with HIV which makes it harder to talk about and treat as compared to viral hepatitis, thereby making these two diseases interesting for further inquiry. Consequently, focusing on both diseases together allows me to understand if despite having the same modes of transmission HIV can be understood differently, and what this means for HIV stigma. Therefore, I focus on how the diseases are understood in the country, what stigma means and the consequences this has for HIV programs seeking to

\(^{12}\) That is what is it in the nature of HIV understanding in these countries which makes PLHIV undesirable and rejected in society in comparison to other people (Goffman, 1963).
provide services to PLHIV. The objective is to enable public health actors improve the targeting and delivery of health interventions.

CASE DETAILS

Pakistan is an extreme case for studying how HIV is understood in a country where the primary mode of HIV transmission is intravenous drug use. Pakistan has four provinces (Punjab, Sindh, Khyber Pukhtoonkhwa and Balochistan) and a group of federally administered tribal areas. It is among the sixteen countries of the world\textsuperscript{13} that not only have the highest number of injecting drug users, but also the highest prevalence of HIV among injecting drug users\textsuperscript{(UNODC, 2014)}. While the global prevalence of HIV among IDUs is 13.1 percent (UNODC, 2014), the prevalence of HIV among IDUs in Pakistan is much higher (27.7 percent) (NACP, 2011). In terms of the South-West Asia\textsuperscript{14} region of the world, Pakistan is responsible for driving up the prevalence of HIV among IDUs (regional prevalence of HIV is 28.8 percent). Additionally, while it is also one of the countries of the world with the highest burden of the epidemic is among IDUs, sexual transmission of HIV is low. Among other HIV risk groups the highest prevalence is among transgender sex workers (7.2 percent), followed by male sex workers (3.1 percent) and female sex workers (0.8 percent). The prevalence of HIV in the general population is very low (0.01 percent)(NACP, 2011).

Viral hepatitis is a good comparison group for HIV as it has high prevalence in the country. According to a survey in 2007-08 by the Pakistan Medical Research Council, the prevalence of

\textsuperscript{13} Countries include: Belarus, Canada, Georgia, Indonesia, Kazakhstan, Latvia, Malaysia, Myanmar, Pakistan, Republic of Moldova, Russian Federation, Spain, Tajikistan, Thailand, Ukraine and United States.

\textsuperscript{14} Countries include: Afghanistan, Bahrain, Iran (Islamic Republic of), Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Pakistan, Qatar, Saudi Arabia, Syrian Arab Republic, United Arab Emirates and Yemen.
viral hepatitis in the country was 4.8 percent (WHO, 2017). The main routes of viral hepatitis transmission in Pakistan are intravenous drug use, sharing of needles in healthcare settings, use of contaminated blood and blood products, occupational risk and shaving by barbers. While there are no official estimates of co-occurrence of viral hepatitis and HIV among IDUs in the country, a survey in 2005 showed an 88 percent prevalence of viral hepatitis and an HIV prevalence of 23 percent among IDUs in Karachi, Sindh. In Lahore, Punjab, the prevalence of viral hepatitis among IDUs was 91 percent and HIV was 0.5 percent (Ali, Donahue, Qureshi, & Vermund, 2009). This suggests that while drug users usually have viral hepatitis, the prevalence of HIV in comparison is lower.

**METHODS**
I used a combination of interviews, content and thematic newspaper analysis to compare HIV and viral hepatitis.

**I. Most similar case study design**
I use a most similar study design to compare HIV and viral hepatitis to determine if two diseases with similar modes of transmission can be understood differently. The most similar case selection technique chooses two cases that are very similar across all background conditions, and differ on one main variable of interest, which is expected to lead to a difference in results on the outcome (Seawright & Gerring, 2008). HIV and viral hepatitis are good cases for comparative purposes as there is co-occurrence of the diseases (Ali et al., 2009). Additionally, in the context of Pakistan there is substantial overlap in their modes of transmission as they are both spread through injecting drug use, however they differ in that while sexual transmission of viral hepatitis is rare, it is a very common mode of transmission for HIV. Moreover, in several major
countries of the world HIV has been associated with sexual contact (as can be seen from the
discussion above) while viral hepatitis has not.

II. Content analysis of newspapers

Sample selection
To understand the frames used in Pakistani newspapers for discussing HIV and viral hepatitis, I
selected electronically available English-language newspapers - The Nation (Punjab); Daily
Regional Times (Sindh), The Balochistan Times (Balochistan), The Frontier Star (Khyber
Pukhtoonkhwa) - in Lexis Nexis from 2006 to September 2016. I selected these newspapers from
the larger population of newspapers both due to their wide readership and due to their electronic
availability in Lexis Nexis. Newspapers from different provinces were selected, as comparative
political communication research suggests that framing of politics can be different in different
countries with varied models of media and politics(Strömbäck & Dimitrova, 2011).
Consequently, as the four provinces have different political governments and different levels of
conservatism, I selected all four to uncover any potential differences that might be present. I also
selected a longer time frame to observe any change in trends in news coverage over time. I used
broad search terms for HIV (HIV/AIDS or HIV) and hepatitis (Hepatitis) and this yielded 1580
articles for HIV and 3415 articles for hepatitis.

Research on quantitative sampling designs for newspapers highlights that for quantitative content
analysis, constructed-week samples that are randomly drawn are one of the best ways for
representing population parameters(Riffe, Lacy, & Fico, 2005). However, as my objective here is
to give a broad qualitative overview of the differences and similarities in frames used for the two
diseases, I selected a random sample of papers, 10 percent of the total HIV articles (n=156) and 5
percent of the total hepatitis articles (n=176). After excluding the irrelevant articles (articles that did not talk about HIV and viral hepatitis) overall, 137 HIV (N=1580) and 117 viral hepatitis articles (N=3415) were coded using my fixed coding guide.

Developing the coding guide
I used an inductive approach to develop my coding guide(Krippendorff, 2004). This involved taking random samples of newspaper articles from the population of both HIV and hepatitis articles, and subsequently reading the articles to determine the frames used for discussing the diseases. Following my initial read of the articles, I developed frames for categorizing the thematic focus of newspaper stories. My fixed coding guide lays down decision rules for classifying news stories into different frames; substantive frames focus on different topics (medical, resource, magnitude, awareness, ‘stigma and discrimination’ and ‘social causes of HIV’). Main and peripheral frames focus on classifying the importance a substantive frame was given within a newspaper article; a short length given to a frame in a news story classifies it as a peripheral frame and a longer length classifies it as a main frame.

The following substantive frames emerged: medical, awareness, resource, magnitude, ‘stigma and discrimination’ and ‘social causes of HIV’ frame. A medical frame discusses treatment, transmission and prevention methods for the diseases. For example, “He said use of affected syringes is a main source of increasing HIV/AIDS in the country”(The Nation, 2006). A resource frame discusses resource utilization or lack of resources (human, financial, technical or institutional) to address the disease. For example, “[..] nine rehabilitation and treatment centers had been working in which treatment facilities were being provided to drug users [..]”(Frontier
Star, 2013). An awareness frame highlights existing awareness efforts or the need for such efforts. For example, “the minister emphasized the need to create awareness among masses regarding use of disposable syringes”(The Nation, 2006). A magnitude frame, quantitatively or qualitatively gives a sense of the scope of the disease prevalence or the scope of the problem at hand. For example, “[..] the estimated cases of AIDS are around 85 to 90,000”(The Nation, 2007). The ‘stigma and discrimination frame’ discusses stigma and discrimination in relation to the disease or risk groups. For example, “[..] stigma, discrimination and human rights violations have seriously posed an irony to the democratic times that we are living in”(Daily Regional Times, 2009). The ‘social causes of disease frame’ discusses the non-medical causes for the disease. For example, “[..] the root cause of the virus is risky behavior mainly disapproved physical promiscuity [..]”(Daily Regional Times, 2011). A more detailed description of each frame is in the Annex.

Generating frames was an iterative process, and once the frames were generated I pre-tested the coding guide to determine if my decision rules meaningfully categorized the articles. I did two rounds of pre-testing following initial development of the coding guide. In the first round, new frames did not emerge, but several new decision rules for classifying the frames did. In the second pre-testing round, no new frames or decision rules emerged.

III. Interviews and thematic analysis of newspapers

Newspaper analysis
To give context to what stigma means qualitatively, I did a thematic analysis of all the ‘stigma and discrimination’ articles (n=11) and the ‘social causes of HIV’ articles (n=8). The thematic
analysis for the newspapers uses a similar methodology as the interviews and so is discussed below.

*Interviews*

**Human subjects protection**

Prior to the start of the research, approval was sought from the University at Albany’s Internal Review Board, and it considered the research exempt as the questions being asked did not jeopardize the well-being of the interviewees. Before each interview the research objective was explained to the interviewee and permission for tape recording was sought.

**Participants**

I conducted 29 interviews (23 semi-structured, key informant interviews and 2 group interviews) between December and January 2015 to develop a deeper understanding of stigma and understand the role played by media and HIV programs in disease framing. My respondents were either HIV program employees in one of the four provincial HIV programs, the national HIV control program, or were health and/or HIV experts in international organizations. For one province, Balochistan, in-person interviews could not be arranged. Recruitment of government HIV program employees took place through snowball sampling, while for international organizations key informants working on health and/or HIV were identified by contacting senior management in the organizations. (see table 1)

**Interview procedures**

The length of the interviews varied between 45 to 90 minutes, and in most cases they were audio taped. However, where the interviewee did not consent to tape recording, filed notes were taken. I had two interview guides, one for HIV program employees and another one for international organizations. As this paper reports the findings from a larger study on understanding HIV program dynamics in Pakistan, the questions that were relevant for this part of the project are
reported here. They focused on understanding media attention to HIV, if there is stigma with
HIV, and how HIV compares to hepatitis. (See interview guides in the annex)

Thematic analysis of interviews and newspaper articles
I used an inductive approach to data analysis. This involved reading each interview transcript
line by line, and grouping themes into broader, more meaningful categories (Emerson, Fretz, &
Shaw, 1995; Hewitt-Taylor, 2001). I analyzed all my interviews and all the articles in the stigma
and discrimination frame’ and ‘social causes of HIV frame’ using this approach.

RESULTS
I organize my findings from the content analysis, deeper thematic analysis of newspaper articles,
and interviews around three core questions: (1) key frames to understand HIV and hepatitis (2)
understanding what HIV stigma means (3) consequences of stigma and how HIV programs are
currently tackling the situation.

I find while there is an overlap in the frames used for discussing HIV and hepatitis (medical,
awareness, magnitude, resource), they differ in an important way: HIV is also discussed using
the ‘social causes of HIV frame’, which discusses the disease in non-medical terms, and the
‘stigma and discrimination frame’, which discusses stigma and discrimination is attached to the
disease. The use of these two frames - ‘stigma and discrimination frame’ and ‘social causes of
HIV frame’ - for HIV only suggests that while HIV and viral hepatitis are both transmitted
through injection drug use in Pakistan, they are not understood in a similar manner; there is more
than just a medical understanding of HIV in contrast to viral hepatitis. The interviews and a
deeper thematic analysis of newspaper articles in the ‘stigma and discrimination frame’ reinforce
the finding that PLHIV face stigma. The interviews further highlight that there is stigma with
HIV but not with hepatitis; hepatitis is understood only as a medical disease, however, HIV becomes a stigmatizing character trait. To understand what stigma means, I draw on my interview findings, but focus on articles in the ‘social causes of HIV frame’. They highlight that HIV is stigmatized by associating it with immoral and un-Islamic behavior. This turns the disease into a character trait. Stigmatization also involves portraying the disease as an illness that can lead to death. The interviews reinforce stigmatization of HIV and also extend these findings by providing a specific example of one type of immoral behavior, sexual contact outside of marriage. Finally, both the interviews and the newspapers highlight that an understanding of HIV creates issues in HIV testing and treatment, and HIV programs have tried to circumvent this through creating awareness of the disease and one province (Khyber Pukhtoonkhwa) has grouped together blood borne diseases to encourage testing and treatment.

I. Key frames to understand HIV and hepatitis

The results of my content analysis show that with the exception of the ‘stigma and discrimination frame’ and the ‘social causes of HIV frame’ both HIV and viral hepatitis are understood using similar substantive frames (medical, magnitude, resource awareness) and have roughly similar patterns in their coverage in the main and peripheral frames of newspaper articles for each disease. This suggests that while the diseases are similar in their modes of transmission, they are understood differently as two additional frames are used for discussing HIV.

Newspapers reference the diseases in articles about them in similar amounts. In terms of main and peripheral frames, thirty-one percent of the HIV articles, and 44 percent of the hepatitis articles had the disease mentioned in their main frame. Eighty-three percent of HIV, and 79 percent of hepatitis articles had the disease mentioned in their peripheral frame. In terms of the
least prominent substantive frames appearing across both HIV and viral hepatitis news stories, the ‘stigma and discrimination frame’, and ‘social causes of HIV frame’ only appeared for articles in the HIV article sample\(^\text{16}\). (See Table 2-3) Mixed use of all other frames (medical, awareness, magnitude, resource) was noted across both HIV and viral hepatitis news stories. The use of the medical frame in the main frame was more prominent for viral hepatitis news stories as compared to HIV stories (19 percent versus 9 percent respectively). However, the use of medical frames for discussing the disease in the peripheral frames of news stories was roughly equivalent for both the diseases (44 percent of news stories for hepatitis and 43 percent for HIV).

In terms of the awareness frame, a larger percentage of articles appeared both in the main and peripheral frames for HIV news stories as compared to hepatitis news stories; 15 percent of the HIV news stories, and 9 percent of the hepatitis news stories used an awareness frame as their main frame. In terms of the use of peripheral frames, 18 percent of the HIV and 11 percent of the hepatitis news stories were using an awareness frame in their peripheral frame.

These findings illustrate that while there is an overlap in the frames used for discussing HIV and hepatitis, \textit{how} they talk about it differs. HIV is also discussed in non-medical terms (‘social causes of HIV frame’) and there is stigma attached to the disease (‘stigma and discrimination frame’). This suggests that while HIV and viral hepatitis are both transmitted through injection drug use in Pakistan they are not understood in a similar manner. To further understand why I

\(^{16}\) I did not note any major differences across the provinces in terms of article reporting, and so I do not stratify my findings by province. In terms of time frame, there is only one notable shift in the frames. While medical, resource, awareness, magnitude appear for both diseases across all years, the ‘stigma and discrimination frame’ for HIV articles is more dominant in more recent years (for example 2015, 2011, 2010) while the ‘social causes of HIV frame’ is more dominant in earlier years such as 2006 and 2007. This suggests that there may be a shift in coverage in newspaper coverage which is now more objective. (See Table 3)
did not find articles for viral hepatitis for these two frames, I draw on my interviews. Almost all respondents in HIV programs discussed that there was high stigma for PLHIV and so they hide their disease status. According to one respondent:

*Stigma related to HIV/AIDS is exponentially high in Pakistan and same is in Khyber Pakhtunkhwa (Group interview # 2, government employees)*

However, when asked about what the difference between HIV and viral hepatitis was, one respondent explained that the main difference between HIV and viral hepatitis was poor disease marketing for HIV which had stigmatized the disease:

*HIV has been marketed so badly that it has become a taboo. This is the difference between Hepatitis and HIV, there is no other difference. It is just what media has built in the minds of the people. [...]Due to the same reason, as such, stigma is not attached to a patient suffering from Hepatitis, people have sympathies for the patient. [...]This is the difference between Hepatitis and HIV. (Interview #23, government employee)*

The statement above suggests that there is a difference in how the media has communicated an understanding of HIV and viral hepatitis. How HIV has been communicated has made the disease a taboo and has stigmatized the disease. In a similar vein, a few respondents drew comparisons between the two diseases and added that people did not associate hepatitis with having engaged in socially ‘wrong’ behavior. According to one respondent:

*Anyone can talk about Hepatitis and Thalassemia, but people may not want to talk about HIV. HIV is related to doing wrong things and having a bad character. (Interview # 1, government employee)*

The statement above suggests that while hepatitis is considered a disease, HIV is considered a character trait. While the discussion above highlights there is a difference between how HIV and viral hepatitis are understood, it is unclear what stigma for HIV means. Therefore, to understand
what stigma means for HIV, that is what reputation or behavior is attributed to someone with HIV, I draw on my in-depth interviews and also conduct a deeper thematic analysis of all the articles in the ‘social causes of HIV frame’. (See table 4)

II. Understanding what HIV stigma means

Immoral social and un-Islamic behavior leads to HIV transmission

All of the newspapers in the ‘social causes of HIV frame’ (n=8) describe HIV as a disease that is the outcome of having engaged in immoral social and un-Islamic behavior. Such behavior is described using symbolic language and negative terms such as: un-Islamic behavior, indecent activities, sexual perversion, not adhering to conjugal rights, and as a social evil. For example:

Among the main reasons of its spread is the indulgence in an immoral and obscene way of life. Adopting Islamic teachings in our way of life can prevent its spread. (The Nation. December 2, 2007)

The views of a person living with HIV in the excerpt below complement the excerpt from the newspaper above as he understands the disease as the outcome of engaging in some type of inappropriate behavior, however, he considers himself to be different from other people who have HIV. This suggests a discriminatory ‘them’ versus ‘us’ attitude even within individuals who have contracted the disease:

All of us are not those who may have contracted the infection due to sketchy behavior. (Daily Regional Times. December 2, 2011.)

The interviews extend the newspaper analysis as a few interview respondents provided specific examples of one type of un-Islamic behavior that is perceived as leading to HIV, sexual contact outside of marriage. According to one respondent:

It is all sexual. Whenever someone hears of someone with HIV, they think that he or she must have gone and had sex somewhere, and that's why got the infection. That's why there is very high stigma and so no one wants to declare [...] God’s wrath is on him. (Interview # 4, government employee)
One respondent further added that the disease is stigmatized by linking it to homosexuality, and it is considered that perverted people acquire the disease. The respondent went on to add that Pakistan is not unique in such an understanding, world over the disease is understood as a sexual disease and prominent personalities have also concealed their HIV status:

*Homosexuality and sexuality have always been linked with HIV. Perverted people have been linked to HIV. So, HIV has received a lot of bad press. So, a general perception is there. People say that you deserve if you got HIV. This is not only in Pakistan, it is all over the world. Charlie Sheen hid it from everyone. So this is world over the disease is sexualized (Interview #1, government employee)*

The excerpt above suggests that HIV is stigmatized by considering the disease as sexual. Additionally, according to one respondent, media has played a negative role and women have especially been ascribed blame for the disease. It is assumed that women engage in socially unfavorable behavior that can contribute to HIV:

*When it comes to gender sensitive media reporting on HIV it has been very negative. They have said things like, so and so woman made so and so person HIV positive while having fun. [..] I mean they always stigmatize women. [..] (Interview #3, respondent from international organization)*

Such a view suggests that in addition to being stigmatized by being linked to immoral and un-Islamic behavior, including sex outside of marriage women are especially targeted in stigmatization.

*HIV is something to be feared as it can lead to death*

HIV is perceived as a disease that should be feared as it can lead to death. Newspapers in the ‘social causes of HIV frame’ (n=8) discuss the disease as something to be feared. They use several terms to describe the disease: deadly, fatal, lethal, leading infectious killer, menace, war-footings, serious threat to global health and a killer virus. For example:
but the prospects of the killer virus spreading its tentacles remain fearsomely present. (The Nation. December 2, 2007)

In the excerpt above, the disease is discussed as a killer of a particular kind, i.e. a monster, and the potential for the disease to spread is being discussed as something that should generate fear. The interviews reinforce the findings of the newspaper analysis by highlighting that HIV is considered as a disease to be feared. They also extend the findings by identifying the causes of fear: messages given by HIV programs ten years ago, such as ‘HIV is death’ with visual images such as a skeleton in HIV prevention adds; negative reporting by media on HIV\textsuperscript{17} and finally lack of awareness on how HIV is transmitted, creating fear of the disease. While these factors are discussed as causes for fear of HIV, they also show that HIV is considered synonymous to death and is a feared disease. (See table 5)

III. Consequences of HIV stigma
In both the newspaper articles in the ‘stigma and discrimination frame’ and in the interviews, respondents discussed that a consequence of HIV stigma was discrimination. To quote one respondent:

\textit{The woman became a widow, and her husband had died of HIV. [...] Her in-laws locked her in her room, and would give her food from under the door and would say that you are the one who gave HIV to our son, you are a bad character woman. (Interview # 3, respondent from international organization)}

The example above highlights mistreatment of a woman who is ascribed blame for her husband acquiring HIV. In terms of discrimination, PLHIV themselves fear that if they disclose their disease status they will experience social alienation. The views of most respondents can best be summarized as:

\textsuperscript{17} Creating fear of death and gender insensitive reporting especially for women, and coverage of people who have HIV
If HIV/AIDS is disclosed once, then the person will think that he will have to leave his service, job and his family won’t own him. So these issues are also there.

(Interview # 20, government employee)

Other examples of stigma and discrimination, discussed in the interviews and newspaper articles in the ‘stigma and discrimination frame’ include, denying PLHIV of health care, marriage rights, employment, family support, deportation from countries, and human rights violations. As a consequence of stigma and discrimination, people are afraid to get tested for HIV, disclosing their status and seeking treatment. While the interviews and newspapers were unanimous in the findings discussed above, the interviews also extend the information provided in the newspaper articles, as a few respondents discussed several efforts to address stigma. These include a recent focus on creating disease awareness, counseling sessions for people living with HIV, drafting an anti-discrimination legislation at the national level, and grouping of blood-borne diseases (in the province of Khyber Pukhtoonkhwa) so that people do not hesitate in coming forward in seeking treatment. This suggests that HIV stigma affects HIV programs and they consider it important to address it and they do so in a variety of ways.

DISCUSSION

Past research highlights that framing, and more specifically media framing shapes the perceptions of individuals(Colby & Cook, 1991; Scheufele, 1999). For HIV, framing is important as it influences how the disease is understood, which subsequently influences societal response to the disease, including stigma with the disease.

Stigma with HIV(Parker & Aggleton, 2003) is a public health problem as it acts as a deterrent in HIV testing and treatment(Hargreaves et al., 2016; Pulerwitz & Bongaarts, 2014; Pulerwitz, Michaelis, Weiss, Brown, & Mahendra, 2010; Winskell et al., 2011). In this paper, using a most
similar case methodology and focusing on Pakistan, I examined how HIV and viral hepatitis, two diseases with similar modes of transmission yet different levels of stigma (where there is high stigma with HIV and evidence of no stigma for viral hepatitis) are understood, what stigma for HIV means\(^\text{18}\) and the implications this has for HIV programs. The objective of the analysis was to use disease understanding as a stepping stone to help public health actors better determine what type of actions they need to take for improving disease prevention and treatment efforts. I find that while HIV and viral hepatitis are both transmitted through injection drug use in Pakistan, they are understood differently. There is high stigma attached to HIV, which leads to discrimination of PLHIV. In contrast, people with hepatitis are not stigmatized in a similar manner, and it is only understood in medical terms. HIV is stigmatized by associating it with immoral and un-Islamic behavior and this turns the disease into a character trait. Stigmatization also involves portraying the disease as an illness that can lead to death. An understanding of HIV creates issues in HIV testing and treatment as people hide their HIV status.

My findings add to the literature in several ways. Previous research highlights that there is stigma attached to HIV and this acts as a barrier in HIV testing and treatment (Hargreaves et al., 2016; Pulerwitz & Bongaarts, 2014; Pulerwitz et al., 2010; Winskell et al., 2011). My findings reinforce this literature, and add to it by identifying what stigma means and some of the barriers to effectively treating HIV. Second, my findings add to the growing literature on framing which argues that framing influences perceptions of individuals (Colombini et al., 2016; Koon et al., 2016), however, they bring an additional issue to the forefront which has received less attention. While existing literature stresses more heavily on how framing leads to an understanding of

\(^{18}\) Stigma more specifically refers to the reputation, or behavior that is attributed to someone who has HIV or viral hepatitis.
issues, here I find that a disease can be misunderstood, or an issue can be downplayed based on which aspects of an issue gain traction in the media; in Pakistan HIV is prevalent among IDUs, but among immoral activities described for causing the disease, the sexual mode of transmission has gained more traction. An example of this is also present in how HIV was framed in the initial stages of the epidemic in the US. HIV was considered primarily as a sexual disease, and although it was also spreading among injecting drug users, little attention was given to these groups as gays dominated the news coverage. This was because as a group injecting drug users were not organized, were not good at advocacy (Fox, 2005; Nelkin, 1991) and were less legitimized to speak in the 1980s (Colby & Cook, 1991).

There are several policy implications of my findings. For Pakistan these findings highlight that public health goals (such as delivering HIV prevention and treatment services to people) can be better achieved through improved understanding of the disease, and this can be achieved through investing resources both towards developing a counter narrative and through better marketing of HIV. While the interviews provided evidence of awareness efforts, there was no discussion on reframing the disease or what role the media can play. Research in other countries suggests that re-framing of HIV led to improved societal response. For example in Malaysia, Indonesia and Iran, framing HIV as a disease prevalent among IDUs has helped in getting it on the agenda of the government and reducing stigma (Kamarulzaman, 2013), and this holds valuable lessons for Pakistan. Other framing efforts can also focus on understanding HIV as a chronic infectious disease, as this has also helped in reducing some of the stigma attached to the disease in the developed world (Scandlyn, 2000). Finally, improved disease marketing has helped in creating a more favorable image for other diseases. For example disease marketing in breast cancer helped
in removing stigma attached with the disease (Strach, 2013). The preceding discussion suggests that there is need for investing in a counter narrative for Pakistan so that there is some form of policy contestation to bring about policy change.

Going forward, future work can explore how global perceptions and understanding of disease influence and shape local understanding of disease transmission. This aspect of the study of policy diffusion (Meseguer & Gilardi, 2009) has not been explored and can be an area of potential future work.

**Limitations**
There are several limitations of this research. There was only one coder (the author) and so coding in the content analysis, interviews and thematic newspaper analysis could be subject to researcher bias. Nevertheless, an attempt was made to avert this by judiciously documenting all the steps involved in the analysis, and taking a systematic approach to data analysis. Second, as the sample size for content analysis of newspaper articles is small, this might have excluded some other frames that may have been appearing in the news stories. However, an attempt was made to circumvent this through several rounds of pilot testing the coding guide. Finally, while the findings of this study are generalizable in terms of the broader message of how framing can lead to a misunderstanding of an issue, the results are more relevant for countries that are followers, and not leaders in terms of shaping global agendas and understanding. This is because these countries are more likely to rely on global understanding of local problems due to constraints on technology, and resources.
## TABLES

### Table 1: Breakdown of interviews

<table>
<thead>
<tr>
<th>Respondent type</th>
<th>Mode of inquiry</th>
<th>Designation of interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal Government</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National AIDS Control Program</td>
<td>2 in-person semi-structured interviews</td>
<td>Program management and staff</td>
</tr>
<tr>
<td><strong>Provincial Governments</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Punjab AIDS Control Program</td>
<td>5 in-person semi-structured interviews</td>
<td>Program management and staff</td>
</tr>
<tr>
<td>Sindh AIDS Control Program</td>
<td>5 in-person semi-structured interviews; 1 in-person semi-structured group interview (4 participants)</td>
<td>Program management and staff</td>
</tr>
<tr>
<td>Khyber Pukhtoonkhwa AIDS Control Program</td>
<td>1 in-person interview; 1 email interview; 1 in-person semi-structured group interview (6 participants).</td>
<td>Secretary health, program management and staff</td>
</tr>
<tr>
<td>Balochistan AIDS Control Program</td>
<td>2 phone interviews</td>
<td>Program management and staff</td>
</tr>
<tr>
<td><strong>International Organizations</strong></td>
<td>5 in-person semi-structured interviews; 2 phone interviews with respondents from 6 international organizations</td>
<td>Health experts and advisors</td>
</tr>
</tbody>
</table>

*Source: Authors own tabulation*
Table 2: HIV and Hepatitis articles in the sample of Pakistani newspapers (2006-2016) using different main and peripheral frames

<table>
<thead>
<tr>
<th>Frames</th>
<th>Hepatitis n (%)</th>
<th>HIV N (%)</th>
<th>Hepatitis n (%)</th>
<th>HIV N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social causes of HIV frame</td>
<td>0 (0)</td>
<td>3 (2)</td>
<td>0 (0)</td>
<td>5 (4)</td>
</tr>
<tr>
<td>Stigma &amp; discrimination frame</td>
<td>0 (0)</td>
<td>6 (4)</td>
<td>0 (0)</td>
<td>5 (4)</td>
</tr>
<tr>
<td>Awareness frame</td>
<td>11 (9)</td>
<td>21 (15)</td>
<td>13 (11)</td>
<td>24 (18)</td>
</tr>
<tr>
<td>Magnitude frame</td>
<td>11 (9)</td>
<td>10 (7)</td>
<td>32 (27)</td>
<td>33 (24)</td>
</tr>
<tr>
<td>Medical frame</td>
<td>22 (19)</td>
<td>12 (9)</td>
<td>52 (44)</td>
<td>59 (43)</td>
</tr>
<tr>
<td>Resource frame</td>
<td>3 (3)</td>
<td>8 (6)</td>
<td>20 (17)</td>
<td>16 (12)</td>
</tr>
<tr>
<td>Other</td>
<td>6 (5)</td>
<td>2 (1)</td>
<td>1 (1)</td>
<td>15 (11)</td>
</tr>
</tbody>
</table>

Note: Table computed from authors own source analysis. The percentage of articles is calculated by dividing the number of articles appearing in each frame for hepatitis and HIV by the respective number of sampled articles for each disease (N= 137 for HIV; N=117 for hepatitis). Time frame: January 1, 2006 till September 30, 2016. Most of the articles have multiple peripheral frames.

Table 3: Table showing breakdown of ‘stigma and discrimination articles’ and ‘social causes of HIV articles’ by province and year to capture change in nature of news coverage over time

<table>
<thead>
<tr>
<th>Year</th>
<th>Provinces</th>
<th>No. of articles</th>
<th>Nature of articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>Sindh, Balochistan</td>
<td>2</td>
<td>Stigma &amp; discrimination frame</td>
</tr>
<tr>
<td>2012</td>
<td>Sindh</td>
<td>1</td>
<td>Stigma &amp; discrimination frame</td>
</tr>
<tr>
<td>2011</td>
<td>Sindh</td>
<td>2</td>
<td>Stigma &amp; discrimination frame</td>
</tr>
<tr>
<td>2010</td>
<td>Punjab, Balochistan, Khyber Pukhtoonkhwa</td>
<td>5</td>
<td>Stigma &amp; discrimination frame in 3 articles and 2 articles use the social causes of HIV frame</td>
</tr>
<tr>
<td>2009</td>
<td>Punjab, Sindh</td>
<td>2</td>
<td>Stigma &amp; discrimination frame</td>
</tr>
<tr>
<td>2008</td>
<td>Balochistan</td>
<td>2</td>
<td>Equal split between stigma &amp; discrimination frame and social causes of HIV frame</td>
</tr>
<tr>
<td>2007</td>
<td>Punjab</td>
<td>2</td>
<td>Social causes of HIV frame</td>
</tr>
<tr>
<td>2006</td>
<td>Punjab, Khyber Pukhtoonkhwa</td>
<td>3</td>
<td>Social causes of HIV frame</td>
</tr>
</tbody>
</table>

Source: Table computed from authors own source analysis
Table 4: Summary of results from content analysis, thematic analysis of newspapers and interviews on how HIV and viral hepatitis are understood, if there is stigma and what contributes to stigma

<table>
<thead>
<tr>
<th>What is the primary mode of transmission in Pakistan?</th>
<th>HIV</th>
<th>Hepatitis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Intravenous drug use</td>
<td>• Intravenous drug use, use of needles in medical settings, blood and blood products</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Is there stigma?</th>
<th>HIV</th>
<th>Hepatitis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• HIV is highly stigmatized (interviews/newspapers)</td>
<td>• No stigma for hepatitis (interviews/newspapers)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How is the disease understood?</th>
<th>HIV</th>
<th>Hepatitis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Content analysis: Frames used for understanding HIV</td>
<td>Content analysis: frames used for understanding hepatitis</td>
</tr>
<tr>
<td></td>
<td>• Medical, awareness, resource, magnitude, stigma and discrimination, and social causes of HIV frame.</td>
<td>• Medical, awareness, resource, magnitude</td>
</tr>
<tr>
<td>Interviews and thematic analysis of newspapers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Immoral and un-Islamic behavior leads to HIV transmission. (newspapers). HIV becomes a character trait, but hepatitis remains a disease (author analysis)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• PLHIV have engaged in promiscuous sexual behavior (interviews)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• HIV will lead to death (newspapers/interviews)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What are the consequences?</th>
<th>HIV</th>
<th>Hepatitis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Discrimination of PLHIV: Denying PLHIV of health care, marriage rights, employment, family support, deportation from countries, and human rights violations (newspapers/interviews)</td>
<td>People do not hide hepatitis status and seek treatment (interviews)</td>
</tr>
<tr>
<td></td>
<td>• Problem for public health: People want to hide HIV status and this complicates both seeking and providing treatment. There is also a risk of transferring infection to the spouse (newspapers /interviews)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• What are programs currently doing: Disease integration with hepatitis and thalassemia and HIV in KPK and creating awareness about the disease (interviews)</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s own analysis. Table based on content analysis, thematic analysis of newspapers and interviews. Sampled articles for content analysis: N= 137 for HIV; N=117 for hepatitis; thematic analysis of newspapers, N=19; Interviews, N=29.
Table 5: Examples of what HIV stigma means from a thematic analysis of newspapers in the ‘social causes of HIV frame’ and interviews (N=29)

<table>
<thead>
<tr>
<th>What HIV stigma means</th>
<th>Newspaper analysis</th>
<th>Interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immoral/un-Islamic behavior</td>
<td>Gives the following reasons for why HIV occurs: un-Islamic behavior, indecent activities, sexual perversion, not adhering to conjugal rights, and as a social evil.</td>
<td>HIV is stigmatized as it is considered: HIV is transmitted through extra-marital sex. It is a disease of homosexuals, perverted people and people with a bad character. Women while enjoying spread HIV.</td>
</tr>
<tr>
<td>Fear/death from HIV</td>
<td>Describes the disease as deadly, fatal, lethal, leading infectious killer, menace, war-footings, serious threat to global health and a killer virus.</td>
<td>Fear was generated through: television adds ten years ago: A skeleton in earlier adds about HIV turned red and black and the add said AIDS is death and second: AIDS cannot be treated.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reporting of people dying from AIDS.</td>
</tr>
</tbody>
</table>

Source: Author’s own source
REFERENCES


Frontier Star. (2013, October 10). Lahore 2nd largest city having highest number of ID users.


Table 2: CODING GUIDE FOR CONTENT ANALYSIS

An identical coding guide was used for coding hepatitis. The only difference across the coding guides was replacing the disease name.

**Article ID**

[ID] List the article’s unique identifier

[YYYYMMDD]  [Newspaper name]  [Headline]

**PROVINCE / SCOPE**

1. Punjab  
2. Sindh  
3. Balochistan  
4. Khyber Pukhtoonkhawa (KPK)  
5. Global

- I define something as the main frame of the article if it is in the headline and it is the dominant topic of discussion in the article.

- **Peripheral frame** is when the dominant discussion is not on HIV OR the main frame has HIV (for example: medical or resource etc.) but a small discussion is also on some other frame (for example stigma). An article can have multiple peripheral frames. **A peripheral frame can vary in length from a mention of HIV in one sentence (but of relevance) to an entire paragraph written on HIV.**

- **Not relevant** for a main frame and peripheral frame is when there is no substantive mention of HIV. For example, “In connection with TB, the manager of HIV department said x”

- **Other** is not captured in the existing frames but is a discussion on HIV/HIV using another frame.

**MAIN FRAME**

1. Medical frame  
2. Resource frame  
3. Awareness frame  
4. Magnitude frame  
5. Stigma and discrimination frame  
6. Social causes of HIV frame  
7. HIV not in main frame  
8. Not relevant  
9. Other _____________

**PREIPHERAL FRAME**
1. Medical frame
2. Resource frame
3. Awareness frame
4. Magnitude frame
5. Stigma and discrimination frame
6. Social causes of HIV frame
7. Not relevant
8. Other ______________

**MEDICAL FRAME**

*I define a frame as medical when there is discussion on treatment, transmission methods, prevention methods. This can be a discussion on exiting treatment, prevention or the need for treatment and prevention. This discussion can be by a doctor, policy maker or someone simply giving a general report on any of the aforementioned topics.*

A frame is medical if it does one or more of the following:

- It talks about HIV treatment (for example: ARV, medicines etc.)
- It talks about the need for treatment (for example: ARV, medicines etc.)
- It talks about diagnoses
- It talks about modes of transmission (for example: sex, injecting drug use, blood and blood products, sharing needles, etc.)
- It talks about modes of prevention (for example: avoiding sex, drug use, blood and blood products, sharing needles)
- It talks about HIV risk groups: sex workers, injecting drug users, deportees, prisoners etc.

**RESOURCE FRAME**

*I define a frame as a resource frame when there is discussion on resources, resource utilization or lack of resources to address the disease. These resources may be human, financial, technical or institutional.*

A frame is resource if it does one or more of the following:

- It talks about resource gaps (shortage of medicines, treatment, infrastructure)
- It talks about patients registered in hospitals
- It talks about patients not registered in hospitals
- It talks about budget/expenditure on HIV
- It talks about existing support/need for support from the local and international community

**AWARENESS FRAME**

*An awareness frame refers to a frame that talks about existing awareness efforts, the need for awareness efforts for HIV.*
A frame is awareness if it does one or more of the following:

- It talks about awareness efforts (for example: education campaigns, adds, press-conferences, walks, seminars and workshops to increase awareness)
- It talks about the need for awareness efforts or the lack of awareness

**MAGNITUDE FRAME**
*This refers to a frame that gives a sense of the scope of the HIV problem at hand. It does this quantitatively, or qualitatively.*

A frame is magnitude if it does one or more of the following:

- It gives a statistic on HIV prevalence
- It gives a statistic on HIV infections
- It gives a statistic on patients that are registered / need to be registered at the hospital
- It gives a statistic on the number of HIV risk groups
- It talks about HIV as a pressing issue
- It gives a sense of HIV being a pressing issue qualitatively by using words such as deadly, killer, dead, critical, alarming, fatal

**STIGMA AND DISCRIMINATION FRAME**
*This frame discusses stigma and discrimination related to HIV and to HIV risk groups.*

A frame is stigma and discrimination if it does one or more of the following:

- It talks about stigma related to HIV
- It gives an example of stigma related to HIV
- It talks about discrimination related to HIV
- It gives an example related to discriminated related to HIV
- It refers to HIV as a taboo

**SOCIAL CAUSES OF HIV FRAME**
*This frame discusses the non-medical causes of HIV*

- It discusses the causes of HIV in non medical terms
Annex: Interview guide for international organizations

5) Explanation of the purpose of the interview; discuss informed consent and confidentiality; get verbal permission to tape record.

6) Grand tour question
   - What is your position title and can you briefly describe your main duties?
   - For how long have you been at the organization?

7) Understanding HIV/AIDS from the perspective of the international organization

Understanding the policy over all
[From a birds eye view perspective, lets first talk a bit about the over all HIV/AIDS policy]
- What is your understanding of the main features of the HIV/AIDS policy of the government in the provinces you work in?
- Can you tell me how this policy evolved?
- There were a number of stakeholder involved in forming the policy, so was there a lot of disagreement?
- Where is this policy going? Are there some changes on the horizon?
  - Probe: Do you think the policy is oriented towards treatment verses control?
  - Do you think there should be a focus on something and it is not?

Understanding the scope of the organizations involvement
- Which provinces do you work in?
- Would you consider yourself to be a main actor in the HIV/AIDS field
- What are your interventions and who are your interventions targeted towards?
  - Probe: What types of projects are you more focused on? [advocacy, treatment, care, capacity building]
  - Probe: Are you involved in the harm reduction activities with NGOs or the government in any way? Different risk groups – SEP programs, IDUs, sex workers? [Probe: Ask about tamer project for DFID - this was a capacity building project for NGOs.]
- How was it chosen to target the policy towards (group they mention)?
- Do you have input in the overall HIV policy formulation? Implementation? Program expansion? Of provinces?
- What are some of the challenges you face in terms of implementing the policies/programs? How are they similar / different across the provinces?

Devolution
- How did the scope of your activities change following devolution?
- Who do you mostly coordinate with now?

Financing
- Can you walk me through how the funding process works?
  - Do you provide financing for HIV/AIDS?
What do you provide the largest share of funding for? [type of activity; risk groups]
What do you provide the smallest share of funding for? [type of activity; risk groups]
Who decides how much funding will go where?
Does disbursement of funding involve discussion with the receiving agency or do you have set priorities and goals that you have to meet?

To get at budgetary commitment
Compared to other programs you fund, how would you compare HIV/AIDS funding?
Who do you provide the highest share of funding for, and in what province mostly?
Please can you share these estimates with me?
What are some of the factors that made you allocate money in this way?

To get at expressed commitment
Have political leaders in the provinces shown support for HIV/AIDS program – your efforts?
How has this changed over time?
Have they done something to support one risk group more or less than another?
Which disease do you think they give most attention to?
  Which of the following do you think they consider bigger problem. Rank the following in order of importance (1 most important; 5 least important):
  HIV/AIDS; viral hepatitis; tuberculosis; maternal and child welfare;
  Condition overall health care system
Would you also rank them did you order them in this way?

To get at institutional commitment
Do you think there is institutional commitment across the provinces for addressing HIV/AIDS?

Causes of HIV/AIDS increasing
What would you list as being some of the main reasons behind why HIV/AIDS is increasing in the country? [Probe: media attention, system failure; stigma, nature of the epidemic – it is concentrated among IDUs, HIV/AIDS is sensitive]
Do you think one risk group gets more preferential treatment as compared to the other?
What do you think about the media campaign regarding HIV/AIDS? Is there even a media campaign?
  Do you think that the media has done it’s due part in creating awareness about HIV/AIDS? Have there been any media campaigns in the recent past?
What do people think in general
  o Working in the field, or through your general knowledge do you think the general population perceive someone living with HIV/AIDS in a negative or positive light? Do they perceive risk groups in the same way? Different way?

- Is there something in the HIV/AIDS policy that really bothers you? You would like to change?
- What do you like about the way HIV/AIDS policy works?
- So we keep hearing that aid has not been effective, why do you think this is the case?

Policy advocates and champions
Is there a high level advocate or champion who promotes HIV/AIDS issues?
Are there any civil society groups that promote HIV/AIDS issues?

8) Conclusion
  o Before we finish our discussion, do you have any other comments about the HIV/AIDS program that we have not yet discussed?
  o Are there any individuals who you think we should talk to about this?
  o I hope that we can get back to you with additional questions if they arise. Is that okay with you?
Interview guide for government employees

Title: Understanding the policy response to HIV/AIDS in Pakistan
PI: Hina Khalid

3) Explanation of the purpose of the interview; discuss informed consent and confidentiality; get verbal permission to tape record.
4) Grand tour question
   - What is your position title and can you briefly describe your main duties?
   - For how long have you been at the department

Understanding policy evolution

10. What are the main features of the HIV/AIDS strategy of the province after 2011 (devolution)?
11. Can you tell me how this strategy evolved (compared to the strategy before devolution)?
12. Do you think your department is equipped to handle changes post devolution?
13. What are some of the issues you confront on a daily basis in policy implementation?
14. Is there some type of policy coordination between the national and the provincial government? Do both take some types of specific roles? Do you coordinate with other provinces?
15. Are there areas where you would like more input from the national government?
16. What role do donor organizations play?
   - Formulation? Implementation?
17. A number of stakeholders have been listed in formulating the HIV/AIDS strategy: NGOs, government officials, special working group, PLHIV
   - Was there a lot of disagreement in formulating the policy?
   - In your estimation, how cohesive would you say are the proponents of these policy solutions? [By cohesive I mean the degree to which the community agrees on the definition, causes and solutions to the problems]
18. Where is this policy going? Are there some changes on the horizon?

Broader umbrella

9. How does the current HIV/AIDS policy fit into the broader umbrella of HIV related disease care?
10. Is there more emphasis on HIV treatment verses prevention?

Target group

The AIDS strategy is targeted towards IDUs, sex workers, Maternal and children

3. Within these risk groups are there any that are perceived in a better way as compared to the other?
4. Is it more easier/harder to target policies and treatment towards one group as compared to another?
Syringe exchange programs

3. So, the policy with regards to injection drug users in the province involves Syringe Exchange Programs.
   c) Can I get some information on the number of syringe exchange programs that are currently in place and functional in the province?
   d) What is their size? Scope?

4. It appears that NGOs are the major stakeholders in delivering clean syringes to injection drug users.
   d) What are some of the challenges faced by syringe exchange programs?
   e) What are some of the successes of the syringe exchange programs?
   f) Can you please let me know who I can talk to better understand the functioning of SEP programs? Can you connect me to some NGOs?

Other risk groups (sex workers)

4. What is the policy with regards to sex workers? Please can you walk me through it’s main features.
   • Is this also implemented through NGOs?
5. What are the main challenges faced in implementation/planning?
6. Do you think that it is easier or harder to target prevention policies towards these risk groups as compared to IDUs?
   a. What are some of the reasons for this?

**A. Budgetary commitment**

7. Does the government have a PC-1?
8. What is the overall resources/expenditure/budget available for HIV/AIDS interventions? Please can you share these estimates with me?
9. Can you please share them with me over time (going as far back as is possible)
10. Is it possible to rank order the risk groups from highest to lowest share of funding?
11. Can you walk me through how a decision is made to allocate money in this way?
12. Is it first by risk group and then by type of activity?

**Funding**

4. Who are the main donor organizations for HIV/AIDS funding?
5. Do you think international organizations are funding those aspects of HIV/AIDS that they should be financing?
6. Would you like them to consult you more or is this something they already do?

**B. Expressed commitment**

4. Have political leaders shown support for HIV/AIDS program?
5. If yes, why? If not why?
11. How has this changed over time?
12. Do all risk groups get equal treatment?
6. Is there some other disease that gets more attention than HIV/AIDS?
13. Please rank the following in order of importance (1 most important; 5 least important):
   HIV/AIDS; viral hepatitis; tuberculosis; maternal and child welfare; something else;
   Condition overall health care system
14. Why did you order them in this way?
15. If the government had extra $ do you think they would spend on them in the order in
   which you have ranked them?

C. Institutional commitment

6. What are the number of programs that provide services to IDUs? To sex workers?
   Maternal and child health?
7. What were some of the factors that led to a difference in number of programs across risk
   groups?
8. Is the HIV/AIDS strategy part of the national health policy/plan?
9. Is the right to HIV/AIDS enlisted in the national legislation?
10. Is there some mechanism that coordinates HIV/AIDS programming?

Are/ How are policies coordinated between HIV/AIDS and Viral hepatitis, HIV/AIDS and
    Tuberculosis, HIV/AIDs and maternal and child health policies?

Focusing events and public attention

6. Have there been any major events in the last year that have drawn particular attention to
   HIV/AIDS problems in the country in the last few years?
7. How much attention do you think HIV/AIDS has received in the media?
8. Has the media played it’s role in increasing awareness about HIV?
9. How would you compare this to Hep C? TB?
10. Are there any information campaigns for the general population? Who do they target?

Overall

16. What do you think despite all efforts HIV/AIDS is increasing in the country? What are
   some of the reasons why this might be the case?

Conclusion

5. Before we finish our discussion, do you have any other comments about the HIV/AIDS
   program that we have not yet discussed? Something you think I have missed out and
   should have focused on?
6. Are there any individuals who you think I should talk about this?
7. I hope that we can get back to you with additional questions if they arise. Is that okay
   with you?
8. Please can you share (i) the AIDS strategy of the province, (ii) budgetary allocations for
   HIV/AIDS and (iii) any other written material that you think might be helpful?
APPENDIX

Table 1: Interview codes, themes and sub-themes

<table>
<thead>
<tr>
<th>THEME</th>
<th>MEDIA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>What role has the media played</strong></td>
</tr>
<tr>
<td>Code 1: No active role</td>
<td>They have not played a useful role in increasing awareness</td>
</tr>
<tr>
<td>Code 2: positive role</td>
<td>One person said they have played a positive role</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>Coverage is on World HIV day</strong></td>
</tr>
<tr>
<td>Code: World HIV day</td>
<td>Coverage is on World HIV day</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>Media is a business</strong></td>
</tr>
<tr>
<td>Code: Media wants money</td>
<td>To give adds media wants money</td>
</tr>
<tr>
<td>Code: HIV program short on money</td>
<td>HIV programs cannot offer money</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>Type of reporting</strong></td>
</tr>
<tr>
<td>Code: Negative</td>
<td>The media has done negative reporting</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>Examples of reporting</strong></td>
</tr>
<tr>
<td>Code 1: Adds death and treatment</td>
<td>Old messages (10-12 years ago) said HIV is death, HIV cannot be treated</td>
</tr>
<tr>
<td>Code 2: Coverage of people who have HIV</td>
<td>Coverage of people who have HIV</td>
</tr>
<tr>
<td>Code 3: Gender insensitive reporting</td>
<td>Stigmatize women</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>Old messages have stuck</strong></td>
</tr>
<tr>
<td>Code: Old messages</td>
<td>Counter narrative has not developed and so old messages have stuck</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>Problems in giving HIV message</strong></td>
</tr>
<tr>
<td>Code: PLHIV association</td>
<td>PLHIV poses a barrier</td>
</tr>
<tr>
<td>Code: DGPR</td>
<td>DGPR poses a barrier</td>
</tr>
<tr>
<td>Code: Sensitivity involved in giving message</td>
<td>Message is of a sensitive nature</td>
</tr>
<tr>
<td><strong>THEME</strong></td>
<td><strong>STIGMA</strong></td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>What causes stigma: lack of awareness of all modes of transmission</strong></td>
</tr>
<tr>
<td>Code: Lack of education and awareness</td>
<td>There is lack of awareness and low levels of education which leads to stigma</td>
</tr>
<tr>
<td>Code: Sexualization of HIV</td>
<td>Sexualization of HIV leads to stigma</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>There is stigma</strong></td>
</tr>
<tr>
<td>Code: Acknowledging stigma</td>
<td>There is stigma related to HIV</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>Difference in how people with HIV and Hepatitis are treated</strong></td>
</tr>
<tr>
<td>Code: <em>Hepatitis and HIV comparison</em></td>
<td>The is no stigma attached with hepatitis and so people freely interact with someone who has hepatitis but not HIV. People openly disclose that they have Hepatitis, but not HIV.</td>
</tr>
<tr>
<td>Code: <em>Hepatitis is not associated with bad things</em></td>
<td>Hepatitis is not associated with having done something negative. The marketing of HIV has been negative.</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>Example of how people with HIV are treated</strong></td>
</tr>
<tr>
<td>Code: Examples – general people</td>
<td>Gives examples of how people with HIV are treated and includes people don’t want to shake hands with them. They are excluded from the community.</td>
</tr>
<tr>
<td>Code: Examples – hospital workers</td>
<td>Health providers are also scared of how to interact with them</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>Results of stigma</strong></td>
</tr>
<tr>
<td>Code: Results stigma</td>
<td>Discusses results of stigma. Examples are low HIV testing, fear of disclosure. Risk of transferring infection to the spouse.</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>Efforts to reduce stigma</strong></td>
</tr>
<tr>
<td>Efforts</td>
<td>Discusses efforts to reduce stigma such as laws, disease integration with hepatitis and thalassemia and HIV in KPK, engaging the communities and Supreme Court.</td>
</tr>
<tr>
<td><strong>Sub-theme</strong></td>
<td><strong>Miscellaneous</strong></td>
</tr>
<tr>
<td></td>
<td>Discusses a range of issues that are difficult to group into one category</td>
</tr>
</tbody>
</table>