

## Attitudes: Health Professionals

# The Role of Physician and Nurse Attitudes in the Health Care of Injecting Drug Users

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*In 2005, 60 health care workers were recruited through services that attract injecting drug users (IDUs) and asked to complete attitude measures regarding IDU clients. Mediation analyses indicated that conservative health care workers displayed more negative attitudes toward their IDU clients because they believe that injecting drug use is within the control of the IDU. Negative attitudes toward IDU clients, in turn, were associated with worry about IDU clients' behavior in the clinic and with beliefs that IDU clients should disclose their hepatitis C status to their health care worker. Perceptions of controllability of drug use were also associated with the belief that IDU clients' ailments were caused by their IDU status. The study's limitations are noted.*

**Keywords** injecting drug use; attitudes; perceptions of control; conservatism; health care system

## Introduction

Injecting drug users (IDUs) enter the health care system for a variety of reasons. They may suffer poor health as a consequence of their injecting drug use, for example, via poor vein care or infection with hepatitis C (HCV), or as a consequence of the lifestyle associated with injecting drug use, for example, through homelessness, poor diet, or negligent hygiene. They

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may also seek health care to control their drug use, e.g., through methadone maintenance and other treatment programs. Many factors influence the quality of care that IDUs receive in the health care system, including the available resources and their own ability to adhere to treatment regimens (Sylvestre, Litwin, Clements, & Gourevitch, 2005). One important factor that can influence the type of care that is provided to clients is the attitudes of health care workers (Caplehorn, Hartel, & Irwig, 1997), but little is known about the role that staff attitudes play in the treatment of IDUs.

Injecting drug use is a highly stigmatized behavior that evokes negative feelings and associations (Ahern, Stuber, & Galea, 2007; Capitanio & Herek, 1999). It is particularly stigmatizing because it is often perceived by others as under the control of the individual, and thus the individual is blamed for their drug use and any related illnesses (cf. Crocker, Major, & Steele, 1998). In such cases, less pity, less concern, and less helping behavior toward members of the stigmatized population is elicited (Weiner, Perry, & Magnusson, 1988). Although it is probably impossible to know the degree to which drug use in any single individual is caused by factors under that individual's control, this relationship between sympathy and perceptions of control suggests that those health care workers who perceive drug use as under the control of the individual are likely to have more negative attitudes toward them. Thus, the first hypothesis of the current research is that perceptions of controllability of drug use will be associated with more negative attitudes toward IDUs.

Perceptions of controllability are themselves predictable from other attitudes, as people who are politically and socially conservative tend to view individual's behavior as within their control, whereas people who are politically and socially liberal tend to attribute comparatively greater control of individual actions to societal forces (Jost, Glaser, Kruglanski, & Sulloway, 2003; Tetlock, 2002). Again, it is probably impossible to assess whether conservatives or liberals are right or wrong here, or even whether these attributions can be classified as right or wrong, but these relationships suggest that conservatives will have more negative attitudes toward IDUs to the degree that they see drug use as under the individual's control. Thus, the second hypothesis of the current research is that conservatism will be associated with more negative attitudes toward IDUs, and this relationship between conservatism and attitudes toward IDUs will be mediated by perceptions of the controllability of drug use.

Negative attitudes toward members of different groups are associated with a wide variety of stereotypes, depending on the nature of the stereotyped group and the theories that people hold about group members (Hilton & von Hippel, 1996). In the case of IDUs, negative attitudes toward group members are likely to be associated with worries about their behavior, particularly in a health care context. For example, adherence rates to treatment regimens are typically lower among clients who are injecting drugs than for clients who have never injected or no longer inject drugs (Sylvestre et al., 2005). There are also lifestyle issues associated with injecting drug use that can make it more difficult for health care workers to work with this population, for example, comorbid psychiatric diagnoses, homelessness, a lack of stable psychosocial environment, poor adherence to scheduled appointments, and limited emotional support (Sylvestre, 2003; Zweben, 2001). Additionally, health care professionals report worries that are based on personal experience with IDUs, regarding threats to safety, theft, and verbal abuse (von Hippel, Brener, & von Hippel, 2008).

To the degree that health care workers have negative attitudes toward IDUs, worries such as these are likely to play a more important role in their interactions with IDUs. As is the case with the other attitudinal variables discussed above, it is unclear whether such worries are commensurate with the difficulties associated with working with IDUs, but the point is not whether they are ill founded. Rather, the goal of the current research is to assess

whether these worries will themselves be predictable based on other attitudinal factors. Thus, the third hypothesis of the current research is that negative attitudes toward IDUs will be associated with worries about their behavior in treatment.

Negative attitudes toward IDUs are also likely to predict beliefs that drug injecting clients should disclose the consequences of their drug use that could pose a threat to others, such as their HCV status. There are clear medical reasons for believing that disclosure of HCV is important, but there are also personal safety concerns that relate to such disclosure, as HCV is communicable to health care workers exposed to blood products (Charles, Angus, Sasadeusz, & Grayson, 2003). People who hold negative attitudes toward IDUs are likely to believe that they are a greater risk for the transmission of such illnesses, and thus are likely to believe that disclosure is very important in such populations. Thus, the fourth hypothesis of the current research is that negative attitudes toward IDUs will be associated with stronger beliefs that they should disclose their HCV status.

Lastly, it is also the case that beliefs about the controllability of drug use are likely to predict other beliefs beyond negative attitudes. In particular, to the degree that people perceive drug use as controllable, they are also likely to believe that drug users have caused their own health problems. Thus, beliefs of controllability are likely to be associated with beliefs that the health care problems of IDUs are caused by their injecting drug use. Again, it is difficult to assess the accuracy of these beliefs in any individual case, and thus the goal of the current research is simply to predict the beliefs that health care workers hold in this regard.

Nevertheless, such beliefs and attitudes are important, as they can influence various other medical decisions. For example, debates surrounding this issue can be seen among medical ethicists who argue about how to determine where somebody is placed on an organ transplant waiting list. Those who are perceived to have caused their own poor health (e.g., via addictions) are often placed later on the waiting list than those who are perceived to be innocent victims (Gillon, 1995; Steinberg, 2004). Thus, the fifth and final hypothesis of the proposed research is that beliefs of controllability of injecting drug use will be associated with beliefs that a greater proportion of the health care problems of IDUs are caused by their injecting drug use.

In sum, we propose the following set of attitudinal relationships. First, health care workers who are more conservative will be more likely to perceive injecting drug use as under the individual's control. Second, perceptions of drug use controllability will in turn predict more negative attitudes toward IDUs. Third, perceptions of drug use controllability will also predict stronger beliefs that the medical problems of IDUs are caused by their injecting drug use. Fourth, negative attitudes toward IDUs will be associated with worries and concerns about the way these clients behave in the treatment setting. Fifth, negative attitudes toward IDUs will be associated with stronger beliefs that they should disclose related health problems that could pose a threat to others, such as their HCV status. In an exploratory study designed to test these possibilities, we measured these attitudes and beliefs among a sample of health care workers who treat IDU clients. We then conducted path analyses of the beliefs and attitudes reported by health care workers to assess whether these constructs were associated with each other in the manner predicted above.

## **Method**

### ***Participants***

The sample consisted of 60 health care workers (doctors and nurses). Recruitment targeted services that attract IDUs, such as needle and syringe programs, methadone clinics, and

drug user treatment facilities. Recruitment sites were concentrated around the Sydney metropolitan area. Health care workers completed the measures on a laptop computer individually at the treatment facility during work hours (e.g., during their lunch break), and were given a gift voucher of \$25.

### **Materials and Procedure**

Participants completed the scales below in the following order: First, health care workers completed a 5-item scale measuring negative attitudes and behaviors toward IDUs (e.g., “I avoid injecting drug users whenever possible”; Cronbach’s  $\alpha = .57$ ,  $M = 2.14$ ,  $SD = .52$ ). Health care workers then completed a 4-item scale measuring perceptions of controllability of injecting drug use (e.g., “Injecting drug users are responsible for their addiction”; Cronbach’s  $\alpha = .75$ ,  $M = 2.19$ ,  $SD = .74$ ). Responses to these measures were provided on a 5-point scale ranging from *strongly disagree* to *strongly agree*. These scales were developed for the purpose of this study and validated prior to use (Brener & von Hippel, 2008).

Health care workers then completed the 12-item revised Wilson Conservatism Scale (Cronbach’s  $\alpha = .71$ ,  $M = 1.33$ ,  $SD = .30$ ), which assesses social conservatism (Henningham, 1996). Responses to this scale were provided on a 3-point scale labeled *yes*, *uncertain*, or *no*. Next, health care workers completed two items that asked how much of their IDU clients’ physical and mental health concerns are related to their injecting drug use. Responses to these questions were provided on a 4-point scale ranging from *none* to *all*. Because the two items were significantly correlated ( $r = .31$ ,  $p < .02$ ), they were collapsed into a single indicator ( $M = 2.08$ ,  $SD = .39$ ).

Health care workers then completed a 4-item *worry* scale that assessed the types of worries and concerns they have about the behavior of IDUs in the treatment service (e.g., “You worry that he/she may become violent”; Cronbach’s  $\alpha = .73$ ,  $M = 1.62$ ,  $SD = .47$ ). Responses to this scale were provided on a 3-point scale labeled *not a concern*, *a minor concern*, or *a major concern*. Finally, health care workers were asked whether they think their drug injecting HCV+ clients should be encouraged to disclose their HCV+ status to their health care workers. Responses were provided on a 4-point scale ranging from *never* to *always*.

## **Results**

### **Sample Characteristics**

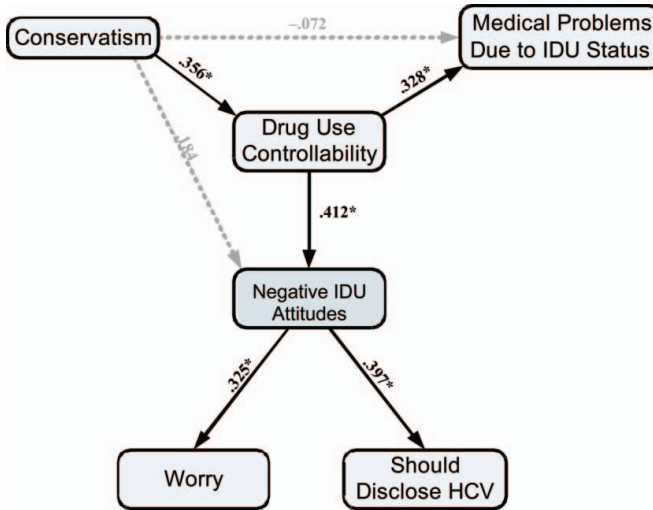
Table 1 outlines the characteristics of the sample. All services through which participants were recruited were located in geographical areas in metropolitan Sydney where there is a concentration of IDUs. Service providers in the area are therefore familiar with IDUs and these services cater to the needs of IDU clients.

The primary aim of the analyses was to examine the inter-relationships among variables. According to predictions, conservatism should predict perceptions that injecting drug use is controllable. Perceptions of controllability, in turn, should predict perceptions that other ailments are caused by injecting drug use and should also predict negative attitudes toward IDUs. Finally, negative attitudes should predict worry about the behavior of IDU clients and should also predict beliefs that IDU clients should disclose their HCV status.

We examined these predictions using path analysis models as implemented in Mplus v. 5.0 (Muthén & Muthén, 1998–2007). Bias-corrected bootstrapped confidence intervals are reported for all effects—for regression slopes as well as for indirect effects—because bootstrapping is robust to violations of normality and is appropriate even when sample sizes

**Table 1**  
Sample characteristics ( $n = 60$ )

Type of practice	Participants	Age	Clients serviced by the facility
Private practice	3 doctors (1 female) 1 nurses (female)	$M = 46.7$ (41–53) 40	Accessed by people on methadone
Primary health care facilities	2 medical students (female) 5 doctors (2 female) 13 nurses (9 female)	$M = 23.0$ (20–26) $M = 45.6$ (30–55) $M = 44.3$ (27–58)	Accessed by IDUs for health care, people on methadone, most had needle and syringe program facility on site
Private specialist Liver clinics	1 doctor (male) 5 doctors (1 female) 9 nurses (female)	54 $M = 46.6$ (30–59) $M = 44.2$ (29–59)	For hepatitis C treatment, liver problems For hepatitis C treatment and liver problems related to injecting drug use
Drug and alcohol facilities	7 doctors (3 female) 14 nurses (10 female)	$M = 46.6$ (42–57) $M = 49.2$ (30–62)	Accessed by people on methadone, people seeking drug user treatment and people with drug- or alcohol-related problems



**Figure 1.** Path model depicting relationships among modeled variables. Path coefficients are standardized regression weights. Note: \*indicates that zero is not in the 95% confidence interval.

are small (Preacher & Hayes, 2004). All reported regression weights are unstandardized, and indirect effects are based on unstandardized regression weights. We used 20,000 bootstrap resamples to obtain accurate confidence limits. Prior to the regression analyses, bivariate correlations were computed for all the variables in the analyses (see Table 2). Path analysis results are also reported in Table 2. Model fit was excellent [ $\chi^2(df = 5) = 1.33, p = .93$ ; CFI = 1.00; TLI = 1.00; RMSEA = .00, 95% CI:.00, .05; SRMR = .02].

Consistent with predictions, path analysis indicated that health care worker conservatism predicted negative attitudes toward IDUs indirectly through perceptions of controllability of injecting drug use (indirect effect = .257, 95% CI:.077, .570; see Figure 1). Negative attitudes toward IDUs, in turn, predicted worry about the behavior of IDU clients ( $\beta = .291, 95\% \text{ CI}:.044, .501$ ) and the belief that IDU clients should disclose their HCV status ( $\beta = .591, 95\% \text{ CI}:.213, 1.005$ ). Conservatism also indirectly predicted beliefs that the ailments of IDUs are due to their IDU status via perceptions of controllability (indirect effect = .153, 95% CI:.025, .416). All path coefficients and indirect effects are reported in Table 2, along with 95% bias-corrected bootstrapped confidence intervals.

## Discussion

Prior research has identified both conservatism and perceptions of controllability of the cause of a person's stigma as related to negative attitudes toward stigmatized group members (Herek, 2002). The results of this study extend these conclusions by suggesting that perceptions of controllability of injecting drug use play a critical role in the formation of negative attitudes toward IDUs among health care workers. The current data suggest that conservative health care workers have more negative attitudes toward their IDU clients, but only to the extent that they also see drug use as under the individual's control. That is, there was no longer a significant relationship between conservatism and attitudes toward IDUs once drug use controllability was controlled in the path analyses, suggesting that conservative health care workers are not inherently more negatively disposed toward IDUs than liberal health care workers.

**Table 2**  
Descriptive statistics and confidence intervals for unstandardized path coefficients and indirect effects

Correlations, means, & standard deviations	Conserv	Problems	Control.	Negative attitudes to IDU	Worry	Mean	SD
Conservatism						1.34	.29
Problems due to IDU	.06					2.08	.38
Controllability	.36*	.31*				2.18	.73
Negative IDU attitudes	.33*	.18	.48*			2.14	.51
Worry scale	.15	.22	.11	.33*		1.62	.46
Should disclose HCV	.11	-.13	.11	.39*	.06	1.60	.76
					Estimate		95% Interval
<b>Path coefficients</b>							
Conservatism → Controllability					.887		(.361, 1.689)
Conservatism → Problems due to IDU status					-.095		(-.658, .275)
Conservatism → Negative IDU attitudes					.323		(-.109, .720)
Controllability → Problems due to IDU status					.173		(.025, .362)
Controllability → Negative IDU attitudes					.290		(.133, .456)
IDU attitudes → Worry					.291		(.044, .501)
IDU attitudes → Should disclose HCV					.591		(.213, 1.005)
<b>Indirect effects</b>							
Conservatism → Controllability → Problems					.153		(.025, .416)
Conservatism → Controllability → IDU Attitudes					.257		(.077, .570)

Note: \*  $p < .05$ .

The current results also indicate that those health care workers who perceived injecting drug use as under their clients' control attributed more of their clients' ailments to their injecting drug use. Although the perception that the ailments of IDUs are related to their injecting drug use was not significantly correlated with conservatism, the indirect effect of conservatism (via controllability) on perceived causes of their ailments was significant. As Shrout and Bolger (2002) have argued, because mediation tests have greater power than bivariate tests to detect small to moderate relationships, such mediation findings should often be considered meaningful even in the absence of a significant direct effect. Thus, the current data suggest that more conservative health care workers might differ from their more liberal counterparts in the types of diagnoses they make regarding their IDU clients. Finally, the current data also indicate that negative attitudes toward IDUs are associated with increased concern on the part of health care workers about the behavior of their IDU clients, and also with greater endorsement of the belief that IDUs should disclose their HCV status.

These attitudinal findings naturally raise the issue of whether these concerns have their roots in the reality of injecting drug use. Although that question is certainly unanswerable with regard to any particular individual, at an aggregate level it is clear that these concerns are reflected to varying degrees in the reality of injecting drug use. Injecting drug use can lead to vein damage, infections, gangrene, and overdose, as well as long-term damage to a number of organs (Dunn & Laranjeira, 1999; Gossop, Griffiths, Powis, & Strang, 1992; Strang et al., 1998). The lifestyle associated with injecting drug use may also result in violent crime or sex work to support drug acquisition (Donoghoe & Wodak, 1998). For young injectors, drug use is linked to homelessness, school dropout, delinquency, and conduct disorders (Dinwiddie, Reich, & Cloninger, 1992; Fuller et al., 2002; Tomas, Vlahov, & Anthony, 1990). In Australia, hepatitis C is also a major concern for IDUs. By the end of 2004 it was estimated that there were 260,000 people in Australia infected with HCV with an incidence rate of 9,700 new infections a year (National Centre in HIV Epidemiology and Clinical Research, 2006). Over 90% of new infections are acquired through injecting drug use (Australian National Council on AIDS, Hepatitis C and Related Disease [ANCAHRD] Hepatitis C Subcommittee, 2002). Hepatitis C results in inflammation of the liver, which can cause fibrosis (scarring of the liver) and ultimately lead to liver cancer (WHO, 2000). For all of these reasons, IDUs pose a variety of complex challenges for health workers.

### ***Study's Limitations***

Finally, it is important to highlight the limitations of the current research. Most notably, the study is exploratory in nature and represents a first step in understanding the inter-relationships among the attitudes and beliefs of health care workers who work with IDU clients. Thus, the data clearly require replication in a larger sample, ideally with a more diverse and perhaps even representative population of health care workers. The data are also cross-sectional and relied on the self-report of health care workers with no objective measure of treatment experiences or outcomes. Nevertheless, it seems likely that the relationships documented in the current research will have implications for treatment. At the very least, health care workers who believe in the importance of disclosure of HCV status are more likely to encourage such disclosure, and health care workers who believe that most ailments are caused by injecting drug use are likely to place greater emphasis on injecting drug use in their treatment decisions. It is also possible, however, that the worries that health care workers report regarding the behavior of their drug injecting clients will influence their treatment decisions as well. These worries, particularly those focusing on behaviors associated with injecting drug use, could readily provide the underlying attitudinal/belief



basis for differential treatment of people who inject drugs. Thus, future research should attempt to replicate these findings in a longitudinal sample with objective indicators of care, thereby enabling a test of the causal relationships proposed in the model and their implications for treatment.

### ***Declaration of Interest***

The authors report no conflict of interest. The authors alone are responsible for the content and writing of this paper.

## **RESUME**

En 2005, 60 professionnels de santé travaillant dans des services qui attirent des usagers de drogues intraveineuses (UDI) ont été recrutés et ont répondu à des questions sur leurs attitudes face aux clients UDI. Les analyses de médiation indiquent que les professionnels conservateurs présentent plus d'attitudes négatives à l'égard des UDI car ils croient que le fait de s'injecter est un comportement contrôlable par l'utilisateur. Les attitudes négatives des professionnels envers les UDI étaient quant à elles associées à des craintes concernant le comportement des usagers dans la clinique et à l'idée selon laquelle les usagers devraient informer le personnel de santé de leur statut vis-à-vis de l'hépatite C. Les perceptions du caractère contrôlable de l'usage de drogue étaient aussi associées à la croyance selon laquelle les problèmes et les plaintes exprimés par les UDI étaient causés par leur statut d'usagers de drogues.

## **RESUMEN**

En 2005, 60 trabajadores del sector de la salud fueron encontrados a través de servicios que atraen a los usuarios de drogas inyectables (UDI) y les pidieron completar medidas de actitud en cuanto a clientes UDI. Los análisis de mediación indicaron que los trabajadores conservadores del sector de la salud revelaron actitudes más negativas hacia los clientes UDI debido a que ellos creen que el uso de drogas inyectables está dentro del control de los usuarios de drogas inyectables. Las actitudes negativas hacia los clientes UDI fueron asociadas con la preocupación acerca del comportamiento de los clientes UDI en la clínica y con la creencia de que los clientes UDI deberían revelar sus estatus de hepatitis C. Las percepciones de la habilidad del control del uso de drogas también fueron asociadas con la creencia que las dolencias de los clientes UDI fueron causadas por sus estatus UDI.

## **THE AUTHORS**



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**William von Hippel** is a professor of psychology at the University of Queensland. Prior to his arrival at University of Queensland he served on the faculty for five years at the University of New South Wales and for twelve years at Ohio State University. His research activity has been primarily in the area of stereotyping and prejudice, where most of his work concerns the cognitive underpinnings and consequences of stereotyping. He also conducts research on social cognitive aging and executive functioning.



**Susan Kippax**. Since retiring from the Directorship of the NCHSR, **Professor Kippax** is employed as a Professorial Research Fellow. She is Chief Investigator on a number of studies including exploring the role of the Internet in building social capital among gay men, investigating the ways in which general practice deals with depression in gay men, and documenting 'resilience' in aboriginal families. More generally, she is interested in the prevention-treatment nexus and the ways in which policies concerning HIV-treatment roll out and HIV-testing play out in relation to prevention within modern public health.



**Kristopher J. Preacher** is an assistant professor of quantitative psychology at the University of Kansas. His research focuses primarily on the use of factor analysis, structural equation modeling, and multilevel modeling to analyze longitudinal and correlational data. Other interests include developing techniques to test mediation and moderation hypotheses, bridging the gap between theory and practice, and studying model evaluation and model selection in the application of multivariate methods to social science questions.

## Glossary

*Bivariate correlations*: Measure of the strength of the relationship between two variables.

*Bootstrapping*: A method of estimating standard error and significance based not on assumptions of normality but on empirical resampling with replacement of the data.

*Conservatism*: A preference to maintain the existing or traditional order.

*Hepatitis C*: Inflammation of the liver due to the hepatitis C virus (HCV), which is usually spread by blood transfusion, hemodialysis, and needle sticks. The damage it does to the liver can lead to cirrhosis and cancer.

**Injecting drug use:** The client's use of injection as a method of administering illicit or prescription drugs; includes intravenous, intramuscular, and subcutaneous forms of injection.

**Path analysis:** An extension of the regression model that can be used to test for mediation.

**Path coefficients:** Measure of the strength of a given path of influence that is theorized to be from cause to effect.

**Perception of Control:** A social theory proposing that individuals believe that they have power and control over the events that occur in their lives.

**Quality of care:** The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge and practice.

**Regression analyses:** A statistical technique used to estimate the unique effect of one variable on another, while controlling for the effects of other variables.

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