

Opt-Out Testing for Stigmatized Diseases: A Social Psychological Approach to Understanding the Potential Effect of Recommendations for Routine HIV Testing

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Objective: Little research has studied experimentally whether an opt-out policy will increase testing rates or whether this strategy is especially effective in the case of stigmatized diseases such as HIV. **Design and Main Outcome Measures:** In Study 1, a 2×2 factorial design asked participants to make moral judgments about a person's decision to test for stigmatized diseases under an opt-in versus an opt-out policy. In Study 2, a 2×2 factorial design measuring testing rates explored whether opt-out methods reduce stigma and increase testing for stigmatized diseases. **Results:** Study 1 results suggest that getting tested draws suspicion regarding moral conduct in an opt-in system, whereas not getting tested draws suspicion in an opt-out system. Study 2 results suggest that an opt-out policy may increase testing rates for stigmatized diseases and lessen the effects of stigma in people's reluctance to test. **Discussion:** A social psychological approach to health services can be used to show how testing policies can influence both the stigmatization associated with testing and participation rates. An understanding of how testing policies may affect patient decision making and behavior is imperative for creating effective testing policies.

Keywords: stigma, opt-out testing, infectious disease, HIV testing, CDC policy

In September 2006, the Centers for Disease Control and Prevention (CDC) released the following recommendations to increase rates of HIV testing, allow people to seek treatment earlier, and reduce the spread of the virus: (a) Screening for patients ages 13–64 should be performed in all health care settings unless the patient declines (opt-out screening), (b) people at high risk for HIV infection should be screened for HIV at least annually, (c) separate written consent for HIV testing should not be required, and (d) prevention counseling should not be required with HIV diagnostic testing or as part of HIV screening programs (Branson et al., 2006). This policy marked a new era for HIV testing policy, switching from an opt-in, voluntary method of testing to an opt-out, routine policy of testing.

Many researchers have suggested that the new screening policy has the potential to reduce stigma by normalizing HIV testing or making it a common behavior (Copenhaver & Fisher, 2006; Hutchinson, Corbie-Smith, Thomas, Mohanan, & del Rio, 2004; Irwin, Valdiserri, & Holmberg, 1996; Spielberg et al., 2003). However, the U.S. Preventive Services Task Force (USPSTF), an authoritative group that makes evidence-based recommendations about preventive interventions, reviewed data on opt-out screening and remains uncertain about whether routine HIV testing would be acceptable to patients and whether opt-out testing would increase testing rates (Chou, Smits, Huffman, Fu, & Korhuis, 2005; USPSTF, 2005). Although additional time is needed before policy researchers can examine the effects of the current change in policy, in these studies we aimed to test experimentally (a) whether opt-out testing, compared with opt-in testing (voluntary counseling and testing), can reduce the stigma associated with testing for diseases and (b) whether opt-out methods can increase rates of testing for stigmatized diseases such as HIV.

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Stigma and Testing for Diseases

Goffman (1963) defined stigma as “an attribute that is deeply discrediting” and proposed that the stigmatized person is reduced “from a whole and usual person to a tainted, discounted one” (p. 5). It is therefore no surprise that people go to great lengths to avoid the negative social, economic, and behavioral consequences of stigmatization. What is more surprising is that people will even behave in counterproductive or suboptimal ways to reduce their

chances of being stigmatized (e.g., Chesney & Smith, 1999; Young, Nussbaum & Monin, 2007). The psychology and health literature has documented some of these counterproductive effects of stigma on health behaviors (e.g., Fortenberry, McFarlane, Bleakley, & Bull, 2002; Myers, Orr, Locker, & Jackson, 1993). For example, in the case of stigmatized diseases such as HIV, people underestimate their risk of having contracted sexually transmitted infections and their need for testing (e.g., Anderson, Hardy, Cahill, & Aral, 1992; Berrios et al., 1993; Phillips & Coates, 1995; Smith, Buzi, & Weinman, 2005; Weinhardt, Carey, & Carey, 2000; Weinstock, Dale, Linley, & Gwinn, 2002), thus denying themselves important treatment while risking passing the infection on to others (Chesney & Smith, 1999; Siegel, Raveis, & Krauss, 1992; Silvestre, Zhou, Kingsley, & Rinaldo, 1993; Stall, Ekstrand, Hoff, Paul, Catania, & Coates, 1993). Ironically, people's reluctance to test is influenced by a desire to be seen as a good person. Young et al. (2007) found that compared with people imagining being infected with an otherwise identical disease with the same symptoms, people imagining being infected with a stigmatized disease thought their overall morality would be called into question in that they would be seen as more likely to engage in a range of immoral behaviors completely unrelated to the disease (e.g., shoplifting, lying, cheating on a test, and stealing). In an attempt to avoid this moral condemnation, participants reported being half as likely to have been exposed to a stigmatized disease (compared with an otherwise identical disease) and reported less interest in testing for the stigmatized disease. Decreasing the stigma associated with testing may therefore play an important role in increasing rates of testing and health services usage and preventing further transmission.

Testing policies may influence disease stigmatization and rates of testing. For instance, voluntary counseling and testing has been a common testing procedure for HIV and other stigmatized diseases (CDC, 1996; Denison, O'Reilly, Schmid, Strouse, & Sweat, 2004; Summers, Spielberg, Collins, & Coates, 2000). Under voluntary counseling and testing, or opt-in testing, individuals indicate their interest in testing or a clinician recommends testing on the basis of elicitation of risk behaviors. Individuals are then offered the opportunity to discover their HIV serostatus and, if found to be HIV positive, provided with counseling to reduce their future risk of transmitting the infection to others (CDC, 1993). This method of health promotion may lead to high levels of compliance for nonstigmatized diseases, such as skin cancers (CDC, 2003; Dietrich, Olson, Sox, Tosteson, & Grant-Petersson, 2000). However, because rates of testing for stigmatized diseases are generally low, a different method of testing may be better suited to increase participation.

Opt-out methods have been used to increase compliance for various behaviors with low participation rates, such as organ donation. In one survey of European countries (Johnson & Goldstein, 2004), rates of organ donation in opt-in countries ranged from 4.25% (Denmark) to 27.25% (the Netherlands), whereas rates in opt-out countries ranged from 85.9% (Sweden) to 99.98% (Austria). Because an opt-out method has been successful in increasing compliance for desirable health behaviors, this method may also prove effective when applied to increasing the low testing rates for stigmatized diseases.

Studies in the health and medical literature have already pointed to the fact that opt-out methods may increase testing for stigma-

tized diseases both in the United States (e.g., Lee et al., 1999) and in the rest of the world (Yudin, 2003). For example, a study on rates of opt-in versus opt-out testing in Ontario, Canada, has suggested that an opt-out policy may dramatically increase HIV testing rates. Although base rates of opt-in testing in Ontario are generally 50%–60% in the current opt-in system, an intervention using opt-out testing increased rates of testing to 92.5% (e.g., Yudin, Moravac, & Shah, 2007). Although this study was not performed in the United States and did not use a control group, it does imply that opt-out methods may increase participation rates for HIV testing. A separate study of six HIV clinics in Texas measured rates of HIV testing 6 months before and after initiation of an opt-out testing procedure and found that opt-out methods of testing not only increased rates of testing by 54%, but were also associated with a 59% increase in the number of new HIV-positive cases detected and an 89% increase in the number engaging in early intervention (Lee et al., 1999). Studies by the CDC on opt-in versus opt-out prenatal HIV testing in Canada and the United States have confirmed that opt-out sites have higher participation rates (CDC, 2001, 2003). Routine or opt-out systems of testing therefore appear to have the potential to increase testing for stigmatized diseases. To supplement these suggestive field studies, in this article we present experimental laboratory studies designed to demonstrate conclusively that (a) an opt-in versus an opt-out policy changes the meaning attributed by observers to an actor's choice to get tested for a stigmatized disease, and in particular that an opt-out policy leads to a destigmatization of testing, and (b) the benefits of an opt-out policy to increase testing intentions are even greater in the case of a stigmatized disease than in the case of a nonstigmatized disease.

Opt-In Versus Opt-Out Policies and Social Psychological Theory

Social psychological research has suggested that contextual norms (e.g., Jones & Nisbett, 1971; Kelley, 1973) may affect rates of testing and the moral attributions made about people who test for diseases. When testing is counternormative (i.e., the decision to test is counter to the status quo), people may be reluctant to test because choosing to test may raise suspicion that they are infected with the disease. Similarly, when testing is normative, people may be reluctant to avoid testing because refusing to test may signal that they might be infected (or have something to hide). For example, the low rates of HIV testing in opt-in systems (e.g., Yudin et al., 2007) make testing a counternormative behavior. The decision to test for HIV might therefore raise suspicion that the person may have a greater than average risk of exposure, possibly indicating unsafe sexual practices. To avoid stigmatization, people may become less interested in testing (Young et al., 2007). However, people should be more willing to test for nonstigmatized diseases, such as strep throat, because being suspected of having a strep throat infection will not lead to stigmatization. Similarly, under an opt-out policy, base rates of testing are fairly high (e.g., Yudin et al., 2007), and in this case, avoiding an HIV test is a counternormative, deviant behavior that signals that the person might be infected (or at least has something to hide). An opt-out policy should therefore increase testing for stigmatized diseases. In an attempt to evade the potential stigma associated with testing, we expect that people will conform to testing norms. That is, people

should choose to avoid testing under an opt-in, voluntary system of testing and choose to test under an opt-out, routine testing policy.

Present Research

Although past research has suggested that opt-out testing will increase testing participation rates, studies have not experimentally studied the influence of this policy on testing rates for stigmatized diseases. Moreover, studies have not explored whether testing policies affect the stigmatization of disease. One possibility is that opt-out testing will lead to an increase in rates of testing (for both stigmatized and nonstigmatized diseases), but without lessening the effects of stigma. In this case, people would still be less likely in an opt-out situation to test for a stigmatized disease compared with a nonstigmatized disease. An alternative (and our hypothesized) possibility is that opt-out, routine testing will both eliminate the effects of stigma on testing and remove any differences in testing rates between stigmatized and nonstigmatized diseases.

We predicted this second possibility and hypothesized that opt-out testing would not only increase rates of testing for stigmatized and nonstigmatized diseases, but that it would also remove the effects of stigma in people's reluctance to test for diseases.

In this study, we therefore had two aims: (a) to test experimentally whether an opt-out policy, compared with an opt-in policy, would increase testing for stigmatized diseases and (b) to determine whether an opt-out policy can eliminate the effects of stigma associated with testing for diseases. Study 1 was designed to test whether moral attributions about people testing for a stigmatized disease differ under opt-in and opt-out policies. In this study, we assessed whether people who tested in an opt-in setting would be perceived as less moral (and more stigmatized) than people who tested in an opt-out setting. Study 2 was designed both to replicate the differences in testing rates (between stigmatized and nonstigmatized diseases) typically attributed to stigma and found with opt-in testing and to assess whether opt-out testing would remove these differences in rates of testing.

Study 1

Study 1 was designed to determine whether there is a link between stigmatization and testing policies by assessing the moral attributions made about a person who chooses to test or avoids testing under an opt-in versus an opt-out policy. In line with past research on stigma and voluntary testing (e.g., Young et al., 2007), we expected that people who chose to test for a stigmatized disease under an opt-in, voluntary system of testing would be perceived as generally immoral compared with those who chose not to test. Similarly, we expected that people who avoided testing in an opt-out, routine system of testing would be perceived as immoral because they are deviating from the norm. However, we expected that both people who chose to test under an opt-out policy and those who chose not to test under an opt-in policy would not be perceived as generally immoral because they would not deviate from normative behavior. Thus, paradoxically, we predicted that getting tested would draw suspicion in an opt-in (voluntary) system, whereas not getting tested would draw suspicion in an opt-out system.

We further predicted that an opt-out policy would reduce the effects of stigma. If people who test for stigmatized diseases are

seen as immoral regardless of the testing policy, then opt-in and opt-out systems would have no effect on stigmatization. However, if, as we expected, people who test in an opt-out system are seen as less immoral than those who test in an opt-in system, then an opt-out policy should reduce the effects of stigma.

Method

Participants. One hundred eighteen San Francisco Bay area residents (63 men and 55 women; ages 18–41 [$M = 23.3$, $SD = 5.9$]; ethnicity unreported) were approached in various locations around the Stanford University campus and asked to complete a questionnaire. The study protocol was approved by the Institutional Review Board of Stanford University. All participants provided written consent.

Procedure. Participants were randomly assigned to one of four conditions in a 2 (testing procedure: opt-out vs. opt-in) \times 2 (choice: choose to test vs. choose to avoid testing) design. All participants were asked to read a vignette about a man starting work at a health clinic.

The vignette read, "John D. is being recruited to work at BetterDays, Inc. a private clinic specializing in long-term health care. In his spare time John enjoys traveling and hiking." Participants were randomly assigned to an opt-out–opt-in testing paradigm and read either "Upon joining the clinic, all employees have the option to take a number of health tests" (opt-in conditions) or "Upon joining the clinic, all employees routinely take a number of health tests. Therefore almost all of the workers take all of the tests" (opt-out conditions). Participants in all groups then read,

It is possible however, to avoid taking them if you wish. Testing for diseases is done in blocks—diseases in Block A are tested for together; diseases in Block B are tested for together. It takes 1 hour of John's time to test for Block A; it takes an additional 1.5 hours to test for Block B.

All participants were then given a chart of the various diseases for which John could be tested. Block A diseases consisted primarily of nonstigmatized diseases and diagnostics, (cholesterol, meningitis, blood cell count, and strep throat). Diseases in Block B were stigmatized diseases (HIV, herpes, chlamydia, and gonorrhea). People in the choose-to-test group were shown that John asked to be tested for the diseases in Blocks A and B. Those in the avoid-testing groups were shown that John asked to avoid testing for the (stigmatized) diseases in Block B.

All participants were then asked to make attributions about John's likelihood of engaging in various immoral behaviors, among which we included four nonsexual and two sexual immoral acts: abusing illegal drugs, shoplifting, lying, cheating on an exam, promiscuity, and infidelity. Questions were phrased as "How likely is John to lie?" or "How likely is John to commit an infidelity?" and participants responded on a 9-point scale ranging from 1 (*not at all likely*) to 9 (*extremely likely*).

Results

We recoded the 9-point morality response items to range from -4 (*extremely immoral*) to 4 (*extremely moral*). We created a composite score for total immorality by summing the six immoral items (Cronbach's $\alpha = .89$) and submitted these scores to a

Choice \times Procedure analysis of variance. As is apparent in Figure 1, there was no main effect for judgments about John's choice to test or avoid testing, $F(1, 114) = 0.25$, *ns*, nor for the testing procedure, $F(1, 114) = 0.00$, *ns*. However, the predicted interaction between choice to test and testing procedure was significant, $F(1, 114) = 8.42$, $p < .01$.

We conducted focused *t* tests to cast light on this interaction. Under an opt-in policy, John was seen as less moral when he chose to test ($M = -3.1$, $SD = 11.3$) than when he avoided testing ($M = 3.1$, $SD = 8.9$), $t(114) = 2.4$, $p < .02$, whereas when the policy was changed to opt-out, John was seen as marginally less moral when he did not test ($M = -2.1$, $SD = 10.0$) than when he did test ($M = 2.3$, $SD = 9.4$), $t(114) = -1.7$, $p = .09$. Supporting the touted benefits of opt-out testing, John was also seen as less moral when he chose to test under an opt-in policy than under an opt-out policy, $t(114) = -2.1$, $p < .04$.

Discussion

This first study suggests that testing policies may affect moral judgments about testers and the potential stigmatization they may experience. First, note the striking finding that simply choosing to get tested for a stigmatized disease in an opt-in situation, which health researchers would consider a desirable (and maybe even moral) behavior, raised suspicion about the tester's morality. This finding goes beyond Young et al.'s (2007) results, which showed that someone known to have the disease would raise suspicion—here, the mere fact of testing was seen as suspicious. In contrast, people who chose to test for sexually transmitted infections in an opt-out system were perceived as being morally equivalent to those who chose to avoid testing in an opt-in system. Both of these groups were seen as more moral than people who chose to avoid testing in an opt-out system and chose to test in an opt-in system. In summary, people perceive others as immoral if they choose to test under an opt-in system, but this moral condemnation disappears if people test under an opt-out policy.

Study 2

In Study 2, we sought to determine whether an opt-out system would increase rates of testing for stigmatized diseases. Young et

al. (2007) found that people given the option to test for a disease (opt-in policy) were less likely to test when the disease was stigmatized (in this case, by linking the method of transmission with unprotected sexual intercourse, a behavior that was shown to be immoral). In this study, we replicated those methods but used both opt-in and opt-out systems of testing to examine whether an opt-out policy would increase overall testing and might remove the differences in testing rates that have been shown to be associated with stigma.

Method

Participants. Seventy-nine Stanford University undergraduates (32 men and 47 women; ages 18–21 [$M = 19.8$, $SD = 1.2$]; African American, $n = 7$; Asian, $n = 24$; White, $n = 32$; Hispanic, $n = 10$; and other, $n = 6$) came to the laboratory to satisfy credit for their introductory psychology course. One participant was dropped because of incomplete data. The study protocol was approved by the Institutional Review Board of Stanford University. All participants provided written consent.

Procedure. Participants were randomly assigned to one of four conditions in a 2 (testing paradigm: opt-out vs. opt-in) \times 2 (disease condition: stigmatized vs. nonstigmatized) design. Individual participants arrived at the laboratory and read standard health materials used in previous studies (e.g., Ditto & Boardman, 1995). After agreeing to participate in an experiment on the relationship between psychological characteristics and physical health, participants were provided with questionnaires, a test for a fictitious disease, and a blood pressure test to strengthen the cover story. They were asked to fill out a brief health history questionnaire (including perceptions of their current health, previous diagnoses of illnesses, and whether they engaged in various behaviors such as drinking and smoking) and a hypochondria questionnaire (assessing their likelihood of having hypochondria). Participants were also given information about the relationship between blood pressure and health outcomes and were presented with a blood pressure monitor and instructions on how to self-administer blood pressure monitoring. They were then provided a scoring sheet to record their blood pressure results. No participant had unusually high or low blood pressure.

People in the opt-in condition were then told, "Thank you for your participation. We now have all the information that we need from you. However, at this point, participants have the option to test for a disease." Those in the opt-out condition were told, "Thank you for your participation. We now have all the information that we need from you. However, at this point, we routinely test participants for a disease" (the experimenter then pointed to a stack of papers suggesting that testing was the default behavior). All participants were informed that testing for the disease would take 10 min. To safeguard against the possible experimental demand for testing, the experimenter was instructed to stress that the formal study had been completed and that all information had already been collected.

Participants then received information about streptococcus encephalitis, a fictitious infectious agent. People in the nonstigma group were told that streptococcus encephalitis is transmitted by (a) sharing of eating and drinking materials, (b) coughing or sneezing, or (c) unclean hands. The stigma group was informed

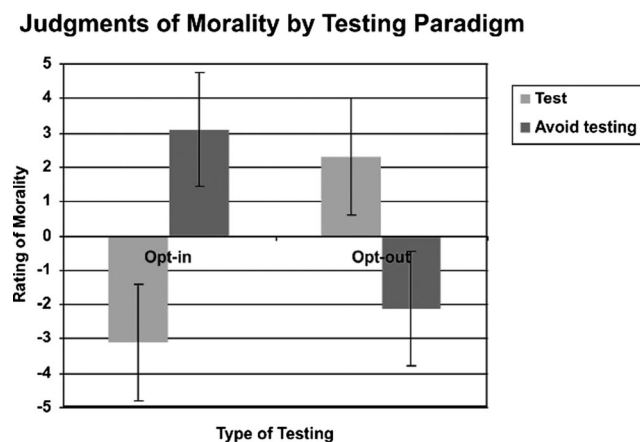


Figure 1. Judgments of morality by testing paradigm.

that the agent could be contacted through an additional (stigmatized) vector, unprotected sexual intercourse.

The testing procedure was explained to participants, and they were instructed to rinse their mouth with a mouthwash and then to provide us with a testing specimen by wiping the inside of their cheek 15 times on each side with a toothpick. Participants were given a test result questionnaire asking their likelihood of testing for the disease (on a 9-point scale ranging from 1 (*very unlikely*) to 9 (*very likely*)), actual decision to test (yes or no), and various questions about the results of the test and whether they would like to receive more information about the test. All participants completed the first two questions about whether they would take the test and were asked to wait for the results before filling out the final questions. The additional questions were added to increase the cover story's credibility. No participant filled out these remaining questions. Those who completed the form and indicated that they did not want to test were immediately debriefed, and those who decided to test were debriefed after they provided a testing specimen.

Results

Intention to test. Table 1 displays the intended and actual testing likelihood of participants in each group for the disease. A Policy \times Stigma analysis of variance revealed that participants in the opt-out groups reported being more likely than those in the opt-in groups to test for the disease, $F(1, 75) = 27.3, p < .01$. We found no difference between those who were given information that the disease could be contracted in a stigmatized manner versus those who were given information that the disease could be contracted in a nonstigmatized manner, $F(1, 75) = 0.7, ns$.

Central to our hypothesis, we found the predicted cross-over interaction between stigma and policy, $F(1, 73) = 7.26, p < .01$. Using t tests to focus on the interaction, we found that under opt-in methods, those in the stigma group ($M = 2.82, SD = 2.2$) were less likely than those in the nonstigma group ($M = 5.18, SD = 3.2$) to intend to test, $t(73) = -2.36, p < .01$. However, changing the method of testing to opt-out removed this difference, making people in the opt-out group equally likely to intend to test for the stigmatized ($M = 7.71, SD = 1.8$) and nonstigmatized ($M = 6.95, SD = 2.5$) disease, $t(73) = -0.92, ns$.

Actual likelihood of testing. Using chi-square tests, we found initial differences in testing rates between the four groups, $\chi^2(3, N = 77) = 31.1, p < .01$. Participants in the opt-out groups were more likely than those in the opt-in groups to test for the disease, $\chi^2(1, N = 77) = 26.66, p < .01$. When collapsing across opt-in–opt-out groups, there was no difference in testing rates between

those who were given information that the disease could be contracted in a stigmatized manner versus those who were given information that the disease could be contracted in a nonstigmatized manner, $\chi^2(1, N = 77) = 0.87, ns$.

Central to our hypothesis, we found that under opt-in methods, those in the stigma group were less likely than those in the nonstigma group to test for the disease (12.5% of the stigma group vs. 45.5% of the nonstigma group), $\chi^2(1) = 4.7, p < .04$. However, changing the method of testing to opt-out removed any differences in testing rates between the stigma and nonstigma groups (94.0% of the stigma group vs. 85.7% of the nonstigma group), $\chi^2(1) = 0.70, ns$ (see Figure 2).

Discussion

Study 2 demonstrates that an opt-out policy can increase testing for stigmatized diseases. As current practice suggests, under an opt-in testing policy participants demonstrated low rates of testing (45% for the nonstigmatized disease and 12% for the stigmatized disease). However, when the method of testing was changed to an opt-out, routine policy, we witnessed an almost twofold increase in testing for the nonstigmatized disease (increasing to 85.7% of participants in the group) and an almost eightfold increase in testing for the stigmatized disease (increasing to 94% of participants in the group). The effects of opt-out testing not only increased rates of testing, but one possible interpretation is that they also reduced the stigmatization associated with testing because the opt-out condition removed the opt-in differences in rates of testing between stigmatized and nonstigmatized diseases.

General Discussion

Whether to implement routine, opt-out screening for HIV is a national policy debate. The CDC's 2006 routine screening recommendation represented a profound change in testing policy. Prior CDC and USPSTF recommendations were for targeted, risk-based screening except in high-prevalence settings. The USPSTF reviewed the evidence for screening both shortly before and after the CDC's recommendation was released in 2006 and concluded that there was not sufficient evidence to recommend for or against routine screening (Chou et al., 2005; USPSTF, 2005). Currently, therefore, HIV screening recommendations from the two most influential organizations in the United States disagree (Chou et al., 2005; USPSTF, 2005).

The results of the studies reported in this article support both the CDC prenatal recommendations (CDC, 2001, 2002) and the general universal screening recommendations (CDC, 2006) and suggest that routine, opt-out testing for stigmatized diseases may not only increase participation rates, but may also remove the stigmatization associated with testing. In Study 1, we found that whereas choosing to test for a stigmatized disease in an opt-in system raised suspicion of immorality, choosing to refuse testing in an opt-out system was taken as evidence of lesser moral fiber. These results suggest that people who engage in counternormative behaviors related to stigmatized diseases (i.e., testing when the default behavior is to not test or avoiding testing when the default behavior is to test) are more likely to be perceived as generally immoral (e.g., more likely to shoplift, lie, cheat, and steal). In Study 2, we found that an opt-out policy could lessen the deleterious effects of

Table 1
Intended and Actual Likelihood of Testing by Condition

Condition	Intention to test for target disease (M [SD])	% who actually tested (target disease)
Opt-in		
Stigma	2.82 (2.16)	12.5
Nonstigma	5.18 (3.16)	45.5
Opt-out		
Stigma	7.71 (1.79)	94.0
Nonstigma	6.95 (2.52)	85.7

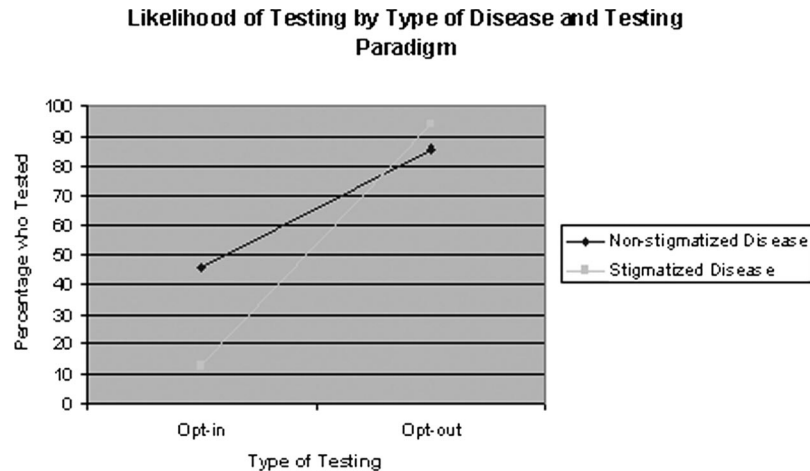


Figure 2. Likelihood of testing by type of disease and testing paradigm.

stigma in reducing testing rates. Although rates of testing in opt-in settings are typically lower for stigmatized diseases than for non-stigmatized diseases (see Young et al., 2007), changing to opt-out methods of testing reduced this difference, making people equally likely to test for stigmatized and nonstigmatized diseases. Taken together, these results suggest that a routine, opt-out policy can normalize testing behavior and might decrease the stigma associated with testing and increase diagnostic rates.

Although stigma has been a barrier leading to low HIV testing rates, new policy changes have the ability to reduce stigmatization and increase testing rates. The CDC has proposed new guidelines for opt-out testing as one such intervention to increase rates of testing. The results of this study support the CDC recommendations for a routine opt-out testing policy and suggest that the policy change will reduce stigma and increase HIV testing rates. Under a system of voluntary testing, people are aware that the counternormative decision to test for HIV may lead to stigmatization (e.g., Young et al., 2007). However, the change to a routine, opt-out testing policy appears to normalize the testing behavior, reduce stigmatization, and increase people's willingness to test.

The short- and long-term social and economic costs and benefits of opt-out testing are still unknown. Although researchers have examined the costs, benefits, and cost effectiveness of routine methods of testing (Paltiel et al., 2006; Sanders et al., 2005), there is disagreement over the social and economic costs of an opt-out policy. For example, researchers have disputed the downstream effects of universal screening on rates of newly acquired infections after universal screening. Because the current policy for opt-out testing does not require people to receive pre- and posttesting counseling, researchers have proposed that the current opt-out methods may actually increase subsequent rates of HIV infection among people who test under this system (e.g., Holtgrave, 2007). Indeed, studies have shown that opt-out testing has resulted in a 23% decrease in the number of people receiving pretest counseling (Lee et al., 1999). Considering the consequences of opt-out testing is therefore important in determining the overall effect of the policy on HIV rates.

These studies have several important limitations. First, our low-risk sample populations of undergraduates and San Francisco

Bay area residents may not generalize to a population of individuals at risk for HIV. However, a system of routine opt-out testing focuses on the population as a whole, not only on high-risk patients. Future research including high-risk individuals may help to examine the effects of opt-out testing in high-risk populations. Next, the studies' findings might not necessarily have policy relevance at this point because the CDC has already issued recommendations for routine testing. However, we believe the results of these studies are still relevant to the current policy discussion because influential groups such as the USPSTF do not currently support opt-out testing, and many physicians are not adhering to the CDC recommendations.

Conclusion

Researchers have documented the low rates of participation for stigmatized diseases and have suggested that stigma reduces willingness to test. To combat low testing rates, opt-out testing has been proposed as an intervention aimed at increasing rates of testing for stigmatized diseases. In this article, we have provided support for these methods and suggest that opt-out testing might reduce stigmatization and increase testing.

Interventions and approaches from outside of traditional public health and health economics may help to increase testing and health service participation rates. In this article, we have taken a social psychological approach. We have examined the influence that norms have on people's behaviors to assess whether interventions that affect perceptions of norms might reduce stigmatization and increase rates of testing.

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