Top Health Issues for Transgender People

PHYSICAL HEALTH

Available research related to physical health issues among transgender people is extremely limited and mainly conducted abroad. Furthermore, studies of how medical interventions, such as hormone therapy and/or sexual reassignment surgeries, affect overall physical health and well-being remain extremely limited.

There is limited evidence to suggest an association between feminizing hormone therapies, such as estrogen-progestin combinations, and an elevated risk for venous thromboembolic disease and increased levels of prolactin. Some research also suggests an association between masculinizing hormone therapies, such as testosterone, and elevated liver enzymes, loss of bone mineral density, and increased risk for ovarian cancer. However, no clinical trials have been conducted to examine, longitudinally, the long-term effects of hormone therapies on overall physical health.^{1,2,3,4}

INJURY AND VIOLENCE

Violence against transgender people, especially transgender women of color, continues to occur in the United States. Numerous studies have suggested that between 16 to 60 percent of transgender people are victims of physical assault or abuse, and between 13 to 66 percent are victims of sexual assault. Intimate partner violence has also been found to be a prominent issue for transgender people. Social stigmatization and other factors may additionally lead to an under-reporting of acts of violence committed against transgender people. 5,6,7,8,9,10,11,12,13,14,15,16

BEHAVIORAL HEALTH

SUICIDE

Studies have shown that suicidal ideation is widely reported among transgender people and can range from 38 to 65 percent. More alarmingly, studies have also found that suicide attempts among transgender people can range from 16 to 32 percent. Access to culturally-sensitive suicide prevention resources and supportive services for transgender people remains a critical priority.^{17,18,19,20,21,22,23,24,25}

MENTAL HEALTH

Data about the prevalence of mental health disorders such as depression, anxiety, and other clinical conditions among transgender people are extremely limited. To date, most studies focusing on mental health disorders among transgender people use nonprobability samples, and few compare the mental health of transgender to non-transgender people.²⁶

The few recent studies that have compared the mental health status of transgender people to non-transgender people have yielded mixed results. On one hand, a recent study found that transgender women were more likely than non-transgender men and heterosexual women to report suicidal ideation and attempts, take psychotropic medications, and have a problem with alcohol; but no such differences were found between transgender women

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and lesbians. On the other hand, another study found that, when compared to men who have sex with men and bisexually active women, transgender women were most likely to report depressive symptoms and suicidal ideation.^{27,28}

SUBSTANCE ABUSE

Alcohol and substance abuse has been identified as a major concern among transgender people in the United States. Some studies have shown that marijuana, crack cocaine, and alcohol are the most commonly used drugs by transgender people. Other studies have also found alarming rates of methamphetamine use (4 to 46 percent; with the highest rates found in Los Angeles and San Francisco), as well as injection drug use (2 to 40 percent). 29,30,31,32,33,34,35,36,37,38,389,40,41,42,43,44,45,46

High rates of tobacco use, specifically cigarette smoking, have also been found among transgender people. Some studies suggest that tobacco use rates can range from 45 to 74 percent. It is critical for prevention specialists and healthcare providers to note that, in transgender women who take estrogen, smoking greatly increases the chances for blood clots. These risks are similar to those faced by non-transgender women who smoke and take oral contraception or undergo hormone replacement therapy (HRT). In addition, transgender men who take testosterone increase their risk of heart disease, and smoking further increases that risk.^{47,48,49,50,51,52,53,54}

Access to substance abuse treatment services can be very difficult for transgender people and therefore remains a critical priority. Studies have suggested that barriers to treatment services often include discrimination, provider hostility and insensitivity, strict binary gender (male/female) segregation within programs, and lack of acceptance in gender-appropriate recovery groups. Enhancing access to culturally-competent prevention and treatment providers for transgender people is essential in addressing the current behavioral health disparities within this population. 55,56,57,58,59,60,61

SEXUAL HEALTH

SEXUALLY TRANSMITTED DISEASES: HIV/AIDS

The HIV/AIDS epidemic has had a significant effect on transgender people. However, due to a lack of systematic surveillance and reporting of HIV prevalence rates among transgender people, the exact prevalence of HIV among this population remains unknown.

In a recent 12-city study, HIV prevalence rates among transgender women were found to vary from 5 to 68 percent. Studies continue to suggest that HIV infection is highest among transgender women of color, with HIV prevalence rates ranging from 41 to 63 percent among African-American transgender women; 14 to 50 percent among Latina transgender women; and 4 to 13 percent among Asian-Pacific Islander transgender women. 62,63,64,65,66,67,68,69,70,71,72,73,74,75,76

Although under-examined, HIV prevalence in transgender men (FTMs) is estimated to range from 2 to 3 percent. In the first studies of HIV among MTF transgender youth, HIV prevalence varied from 19 to 22 percent, showing them to be at high risk for infection.^{77,78,79}

Despite high HIV prevalence rates among transgender women, some studies suggest a disparity in the availability of HIV treatment services. For example, a recent four-city study found that transgender women were less likely to receive highly active anti-retroviral therapy than a control group of men who have sex with men (MSM), heterosexual women and men, and male intravenous drug users (IDUs).⁸⁰

SEXUALLY TRANSMITTED DISEASES: OTHER INFECTIONS

As with HIV/AIDS, there is a lack of systematic surveillance of sexually transmitted diseases (STDs) among transgender people. However, some research has found varying prevalence rates of syphilis (3 to 79 percent); gonorrhea (4 to 14 percent); chlamydia (2 to 8 percent); herpes (2 to 6 percent); and human papillomavirus (HPV) (3 to 7 percent) within the population.^{81,82,83,84,85,86,87}

Prevalence rates of other infectious diseases among transgender people are not well known. Limited studies have found hepatitis C prevalence rates between 11 to 24 percent and hepatitis B rates from 4 to 76 percent among specific samples of transgender women. Other studies on non-sexually transmitted diseases, such as tuberculosis (TB), found a prevalence rate of up to 13 percent among transgender women in San Francisco.^{88,89,90,91,92,93}

This publication lists non-Federal resources to provide additional information. The views and content in these resources have not been formally approved by the U.S. Department of Health and Human Services (HHS). Listing of the resources is not an endorsement by HHS or its operating divisions.

REFERENCES

- Gooren, L.J., & Giltay, E.J. (2008). Review of studies of androgen treatment of female-to-male transsexuals: Effects and risks of administration of androgens to females. *Journal of Sexual Medicine*, *5*(4), 765-776.
- Moore, E., Wisniewski, A., & Dobs, A. (2003). Endocrine treatment of transsexual people: A review of treatment regimens, outcomes, and adverse effects. *Journal of Clinical Endocrinology & Metabolism*, 88(8), 3467-3473.
- Hage, J.J., Dekker, J.J., Karim, R.B., et al. (2000). Ovarian cancer in female-to-male transsexuals: Report of two cases. *Gynecologic Oncology*, 76(3), 413-415.
- Dizon, D.S., Tejada-Berges, T., Koelliker, S., et al. (2006). Ovarian cancer associated with testosterone supplementation in a female-to-male transsexual patient. *Gynecologic & Obstetric Investigation*, 62(4), 226-228.
- Xavier, J., Honnold, J., & Bradford, J. (2007). The health, health-related needs, and lifecourse experiences of transgender Virginians. Richmond, VA: Virginia HIV Community Planning Committee and Virginia Department of Health. From: http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/documents/pdf/THISFINALREPORTVol1.pdf (accessed March 5, 2012).
- Reback, C., Simon, P., Bemis, C., et al. (2001). *The Los Angeles transgender health study: Community report.* Los Angeles: University of California at Los Angeles.
- Kenagy, G. (2005). The health and social service needs of transgender people in Philadelphia. *International Journal of Transgenderism*, 8(2/3), 49-56.
- 8 Kenagy, G. & Bostwick, W. (2005). Health and social service needs of transgender people in Chicago. *International Journal of Transgenderism*, 8(2/3), 57-66.
- 9 Xavier, J., Bobbin, M., Singer, B., et al. (2005). A needs assessment of transgendered people of color living in Washington, DC. International Journal of Transgenderism, 8(2/3), 31-47.
- 10 McGowan, C.K. (1999). Transgender needs assessment. New York: New York City Department of Health, HIV Prevention Planning Unit.
- Risser, J., Shelton, A., McCurdy, S., et al. (2005). Sex, drugs, violence, and HIV status among male-to-female transgender persons in Houston, Texas. *International Journal of Transgenderism*, *8*(2/3), 67-74.

- 12 Cambridge Cares About AIDS. (2006). *Transgender Care and Education Needs Diversity (TransCEND) community needs assessment report.* Cambridge, MA: Cambridge Cares About AIDS.
- Lombardi, E., Wilchins, R., Priesing, D., et al. (2001). Gender violence: Transgender experiences with violence and discrimination. *Journal of Homosexuality*, 42(1), 89-101.
- 14 Clements-Nolle, K., Guzman, R., & Harris, S. (2008). Sex trade in a male-to-female transgender population: Psychosocial correlates of inconsistent condom use. Sexual Health, 5(1), 49-54.
- 15 Clements, K., Katz, M., & Marx, R. (1999). *The transgender community health project: Descriptive results*. San Francisco: San Francisco Department of Public Health.
- For Ourselves: Reworking Gender Expression (FORGE). (2005). *Transgender sexual violence project*. Milwaukee, WI: FORGE. From: http://www.forge-forward.org/transviolence/docs/FINAL_Graphs.pdf (accessed March 5, 2012).
- 17 Xavier, J., Honnold, J., & Bradford, J. (2007). The health, health-related needs, and life course experiences of transgender Virginians. Richmond, VA: Virginia HIV Community Planning Committee and Virginia Department of Health. From: http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/documents/pdf/THISFINALREPORTVol1.pdf (accessed March 5, 2012).
- 18 Kenagy, G. (2005). The health and social service needs of transgender people in Philadelphia. *International Journal of Transgenderism*, 8(2/3), 49-56.
- 19 Kenagy, G. & Bostwick, W. (2005). Health and social service needs of transgender people in Chicago. *International Journal of Transgenderism*, 8(2/3), 57-66.
- Risser, J., Shelton, A., McCurdy, S., et al. (2005). Sex, drugs, violence, and HIV status among male-to-female transgender persons in Houston, Texas. *International Journal of Transgenderism*, 8(2/3), 67-74.
- 21 Cambridge Cares About AIDS. (2006). *Transgender Care and Education Needs Diversity (TransCEND) community needs assessment report.* Cambridge, MA: Cambridge Cares About AIDS.
- 22 Carson, L. (2009). Physical and emotional health needs of transgender individuals living in Philadelphia: Summary of key findings. Philadelphia: Public Health Management Corporation.
- Zians, J. (2006). *The San Diego County transgender assessment report.* San Diego: Family Health Centers of San Diego, CA. From: http://www.calendow.org/uploadedFiles/san_diego_transgender_assessment.pdf (accessed March 5, 2012).
- 24 Clements-Nolle, K., Marx, R., & Katz, M. (2006). Attempted suicide among transgender persons: The influence of gender-based discrimination and victimization. *Journal of Homosexuality*, *51*(3), 53-69.
- Nuttbrock, L., Hwahng, S., Bockting, W.O., et al. (2009). Psychiatric impact of gender-related abuse across the life course of male-to-female transgender persons. *Journal of Sex Research*, 47(1), 12-23.
- Institute of Medicine. (2011). The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding. Washington, DC: The National Academies Press.
- 27 Mathy, R.M. (2002). Transgender identity and suicidality in a nonclinical sample—Sexual orientation, psychiatric history, and compulsive behaviors. *Journal of Psychology & Human Sexuality*, 14(4), 47-65.
- 28 Rogers, T.L., Emanuel, K., & Bradford, J. (2003). Sexual minorities seeking services: A retrospective study of the mental health concerns of lesbian and bisexual women. *Journal of Lesbian Studies*, 7(1), 127.
- 29 Xavier, J., Honnold, J., & Bradford, J. (2007). *The health, health-related needs, and life course experiences of transgender Virginians*. Richmond, VA: Virginia HIV Community Planning Committee and Virginia Department of Health. From: http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/documents/pdf/THISFINALREPORTVol1.pdf (accessed March 5, 2012).
- 30 Reback, C., Simon, P., Bemis, C., et al. (2001). *The Los Angeles transgender health study: Community report.* Los Angeles: University of California at Los Angeles.
- 31 Kenagy, G. (2005). The health and social service needs of transgender people in Philadelphia. *International Journal of Transgenderism*, 8(2/3), 49-56.
- 32 Kenagy, G. & Bostwick, W. (2005). Health and social service needs of transgender people in Chicago. *International Journal of Transgenderism*, 8(2/3), 57-66.
- Xavier, J., Bobbin, M., Singer, B., et al. (2005). A needs assessment of transgendered people of color living in Washington, DC. *International Journal of Transgenderism*, 8(2/3), 31-47.
- 34 McGowan, C.K. (1999). Transgender needs assessment. New York: New York City Department of Health, HIV Prevention Planning Unit.
- Risser, J., Shelton, A., McCurdy, S., et al. (2005). Sex, drugs, violence, and HIV status among male-to-female transgender persons in Houston, Texas. *International Journal of Transgenderism, 8*(2/3), 67-74.

- 36 Cambridge Cares About AIDS. (2006). *Transgender Care and Education Needs Diversity (TransCEND) community needs assessment report.* Cambridge, MA: Cambridge Cares About AIDS.
- 37 Clements, K., Katz, M., & Marx, R. (1999). *The transgender community health project: Descriptive results*. San Francisco: San Francisco Department of Public Health.
- Carson, L. (2009). Physical and emotional health needs of transgender individuals living in Philadelphia: Summary of key findings. Philadelphia: Public Health Management Corporation.
- 39 Zians, J. (2006). The San Diego County transgender assessment report. San Diego: Family Health Centers of San Diego, CA. From: http://www.calendow.org/uploadedFiles/san_diego_transgender_assessment.pdf (accessed March 5, 2012).
- 40 Garofalo, R., Deleon, J., Osmer, E., et al. (2006). Overlooked, misunderstood and at-risk: Exploring the lives and HIV risk of ethnic minority male-to-female transgender youth. *Journal of Adolescent Health*, *38*(3), 230-236.
- 41 Clements-Nolle, K., Marx, R., Guzman, R., et al. (2001). HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: Implications for public health intervention. *American Journal of Public Health*, *91*(6), 915-921.
- Rose, V., Scheer, S., Balls, J., et al. (2001). Investigation of the high HIV prevalence in the transgender African American community in San Francisco. San Francisco: University of California-San Francisco Center for AIDS Prevention Studies. From: http://www.hawaii.edu/hivandaids/High%20HIV%20Prevalence%20in%20the%20Transgender%20African%20American%20Community.pdf (accessed March 5, 2012).
- 43 Boles, J. & Elifson, K. (1994). The social organization of transvestite prostitution and AIDS. Social Science & Medicine, 39(1), 85-93.
- 44 Reback, C. & Lombardi, E. (1999). HIV risk behaviors of male-to-female transgender participants in a community-based harm reduction program. *International Journal of Transgenderism*, 3(1&2).
- 45 Brown, N.C. (2002). Special concerns populations: Transgender needs assessment. Chicago: Chicago Department of Public Health, Office of Gay and Lesbian Health.
- 46 Nemoto, T., Sausa, L., Operario, D., et al. (2006). Need for HIV/AIDS education and intervention for MTF transgenders: Responding to the challenge. *Journal of Homosexuality*, *51*(1), 183-202.
- 47 Xavier, J., Honnold, J., & Bradford, J. (2007). The health, health-related needs, and life course experiences of transgender Virginians. Richmond, VA: Virginia HIV Community Planning Committee and Virginia Department of Health. From: http://www.vdh.virginia.gov/epidemiology/DiseasePrevention/documents/pdf/THISFINALREPORTVol1.pdf (accessed March 5, 2012).
- 48 Cambridge Cares About AIDS. (2006). *Transgender Care and Education Needs Diversity (TransCEND) community needs assessment report*. Cambridge, MA: Cambridge Cares About AIDS.
- 49 Carson, L. (2009). Physical and emotional health needs of transgender individuals living in Philadelphia: Summary of key findings. Philadelphia: Public Health Management Corporation.
- Zians, J. (2006). *The San Diego County transgender assessment report.* San Diego: Family Health Centers of San Diego, CA. From: http://www.calendow.org/uploadedFiles/san_diego_transgender_assessment.pdf (accessed March 5, 2012).
- Garofalo, R., Deleon, J., Osmer, E., et al. (2006). Overlooked, misunderstood and at-risk: Exploring the lives and HIV risk of ethnic minority male-to-female transgender youth. *Journal of Adolescent Health*, *38*(3), 230-236.
- 52 Sanchez, N., Sanchez, J., & Danoff, A. (2009). Health care utilization, barriers to care, and hormone usage among male-to-female transgender persons in New York City. *American Journal of Public Health*, *99(4)*, 713-719.
- National Association of Lesbian Gay, Bisexual, and Transgender Community Centers. (2003). The National Association Of Lesbian, Gay, Bisexual, and Transgender Community Centers tobacco control program: Final report. Garden Grove, CA: The National Association of Lesbian, Gay, Bisexual, and Transgender Community Centers. From: <a href="http://www.lgbttobacco.org/files/toba
- Gay, Lesbian, Bisexual and Transgender Community Center of Colorado, OMNI Research and Training. (2002). Tobacco control needs of the lesbian, gay, bisexual and transgender (LGBT) community in Colorado: A priority population statewide needs assessment conducted for Colorado STEPP (State Tobacco Education and Prevention Partnership). Denver: OMNI Research and Training. From: http://www.lgbttobacco.org/files/CoNeedsAssesment.pdf (accessed March 5, 2012).
- Kammerer, N., Mason, T., Connors, M., et al. (1999). Transgender health and social service needs in the context of HIV risk. *International Journal of Transgenderism, 3*(1+2). From: http://www.wpath.org/journal/www.iiav.nl/ezines/web/IJT/97-03/numbers/symposion/kammerer.htm (accessed March 5, 2012).
- 56 Clements, K., Wilkinson, W., Kitano, K., et al. (1999). HIV prevention and health service needs of the transgender community in San Francisco. *International Journal of Transgenderism*, 3(1&2).
- 57 Sperber, J., Landers, S., & Lawrence, S. (2005). Access to health care for transgendered persons: Results of a needs assessment in Boston. *International Journal of Transgenderism*, 8(2/3), 74-91.

- Nemoto, T., Operario, D., & Keatley, J. (2005). Health and social services for male-to-female transgender persons of color in San Francisco. *International Journal of Transgenderism*, 8(2/3), 5-19.
- 59 Lurie, S. (2004). Identifying training needs of health-care providers related to treatment and care of transgendered patients: A qualitative needs assessment conducted in New England. *International Journal of Transgenderism*, 8(2/3), 93-111.
- 60 Lombardi, E.L. & van Servellen, G. (2002). Building culturally sensitive substance use prevention and treatment programs for transgendered populations. *Journal of Substance Abuse Treatment*, 19, 291-296.
- Center for Substance Abuse Treatment. (2001). A provider's introduction to substance abuse treatment for lesbian, gay, bisexual and transgender individuals, 91-98. Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Substance Abuse Treatment, DHHS Pub. No. (SMA) 01-3498. From: http://www.kap.samhsa.gov/products/manuals/pdfs/lgbt.pdf (accessed March 5, 2012).
- 62 Kenagy, G. & Bostwick, W. (2005). Health and social service needs of transgender people in Chicago. *International Journal of Transgenderism*, 8(2/3), 57-66.
- Kavier, J., Bobbin, M., Singer, B., et al. (2005). A needs assessment of transgendered people of color living in Washington, DC. *International Journal of Transgenderism*, 8(2/3), 31-47.
- 64 McGowan, C.K. (1999). Transgender needs assessment. New York: New York City Department of Health, HIV Prevention Planning Unit.
- Risser, J., Shelton, A., McCurdy, S., et al. (2005). Sex, drugs, violence, and HIV status among male-to-female transgender persons in Houston, Texas. *International Journal of Transgenderism*, 8(2/3), 67-74.
- 66 Carson, L. (2009). Physical and emotional health needs of transgender individuals living in Philadelphia: Summary of key findings. Philadelphia: Public Health Management Corporation.
- 67 Clements-Nolle, K., Marx, R., Guzman, R., et al. (2001). HIV prevalence, risk behaviors, health care use, and mental health status of transgender persons: Implications for public health intervention. *American Journal of Public Health*, *91*(6), 915-921.
- Rose, V., Scheer, S., Balls, J., et al. (2001). Investigation of the high HIV prevalence in the transgender African American community in San Francisco. San Francisco: University of California-San Francisco Center for AIDS Prevention Studies. From: http://www.hawaii.edu/hivandaids/High%20HIV%20Prevalence%20in%20the%20Transgender%20African%20American%20Community.pdf (accessed March 5, 2012).
- 69 Odo, C. & Hawelu, A. (2001). Eo na Mahu o Hawai`i: The extraordinary health needs of Hawai`i's Mahu. *Pacific Health Dialogue*, 8(2), 237-334.
- 70 Rodríquez-Madera, S. & Toro-Alfonso, J. (2005). Gender as an obstacle in HIV/AIDS prevention: Considerations for the development of HIV/AIDS prevention efforts for male-to-female transgenders. *International Journal of Transgenderism*, 8(2/3), 113-122.
- 71 Elifson, K., Boles, J., Posey, E., et al. (1993). Male transvestite prostitutes and HIV risk. American Journal of Public Health, 83(2), 260-262.
- 72 Simon, P., Reback, C., & Bemis, C. (2000). HIV prevalence and incidence among male-to-female transsexuals receiving HIV prevention services in Los Angeles County. AIDS, 14(18), 2953-2955.
- 73 Kenagy, G. (2002). HIV among transgender people. *AIDS Care*, *14*(1), 127-134.
- 74 Thornhill, L. & Klein, P. (2010). Creating environments of care with transgender communities. *Journal of the Association of Nurses in AIDS Care*, 21(3), 230-239.
- Nemoto, T., Operario, D., Keatley, J., et al. (2004). HIV risk behaviors among male-to-female transgender persons of color in San Francisco. *American Journal of Public Health*, *94*(7), 1193-1199.
- Nuttbrock, L., Hwahng, S., Bockting, W., et al. (2009). Lifetime risk factors for HIV/sexually transmitted infections among male-to-female transgender persons. *Journal of Acquired Immune Deficiency Syndromes*, *52*(3), 417-421.
- Garofalo, R., Deleon, J., Osmer, E., et al. (2006). Overlooked, misunderstood and at-risk: Exploring the lives and HIV risk of ethnic minority male-to-female transgender youth. *Journal of Adolescent Health*, *38*(3), 230-236.
- 78 Kenagy, G. & Hsieh, C.M. (2005). The risk less known: Female-to-male transgender persons' vulnerability to HIV infection. *AIDS Care*, 17(2), 195-207.
- Wilson, E., Garofalo, R., Harris, R., et al. (2009). Transgender female youth and sex work: HIV risk and a comparison of life factors related to engagement in sex work. *AIDS and Behavior*, *13*(5), 902-913.
- Melendez, R., Exner, T., Ehrhardt, A., et al. (2005). Health and health care among male-to-female transgender persons who are HIV positive. *American Journal of Public Health*, 95(10), 5-7.
- 81 Reback, C., Simon, P., Bemis, C., et al. (2001). *The Los Angeles transgender health study: Community report.* Los Angeles: University of California at Los Angeles.
- 82 Kenagy, G. & Bostwick, W. (2005). Health and social service needs of transgender people in Chicago. *International Journal of Transgenderism*, 8(2/3), 57-66.

- Risser, J., Shelton, A., McCurdy, S., et al. (2005). Sex, drugs, violence, and HIV status among male-to-female transgender persons in Houston, Texas. *International Journal of Transgenderism*, 8(2/3), 67-74.
- 84 Cambridge Cares About AIDS. (2006). *Transgender Care and Education Needs Diversity (TransCEND) community needs assessment report*. Cambridge, MA: Cambridge Cares About AIDS.
- 85,86 Elifson, K., Boles, J., Posey, E., et al. (1993). Male transvestite prostitutes and HIV risk. American Journal of Public Health, 83(2), 260-262.
- 87 Nuttbrock, L., Hwahng, S., Bockting, W., et al. (2009). Lifetime risk factors for HIV/sexually transmitted infections among male-to-female transgender persons. *Journal of Acquired Immune Deficiency Syndromes*, *52*(3), 417-421.
- 88 Cambridge Cares About AIDS. (2006). *Transgender Care and Education Needs Diversity (TransCEND) community needs assessment report.* Cambridge, MA: Cambridge Cares About AIDS.
- 89 Zians, J. (2006). *The San Diego County transgender assessment report.* San Diego: Family Health Centers of San Diego, CA. From: http://www.calendow.org/uploadedFiles/san_diego_transgender_assessment.pdf (accessed March 5, 2012).
- 90 Elifson, K., Boles, J., Posey, E., et al. (1993). Male transvestite prostitutes and HIV risk. American Journal of Public Health, 83(2), 260-262.
- 91 Nuttbrock, L., Hwahng, S., Bockting, W., et al. (2009). Lifetime risk factors for HIV/sexually transmitted infections among male-to-female transgender persons. *Journal of Acquired Immune Deficiency Syndromes*, *52*(3), 417-421.
- 92 Nemoto, T., Keatley, J., Eleneke, M., et al. (2001). *Critical health needs for MTF transgenders of color—Preliminary findings.* San Francisco: University of California at San Francisco, Center for AIDS Prevention Studies.
- 93 Centers for Disease Control and Prevention. (2000). HIV-related tuberculosis in a transgender network—Baltimore, Maryland, and New York City area, 1998-2000. *Morbidity and Mortality Weekly Report, 49*(15), 317-320. From: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm4915a1.htm (accessed March 5, 2012).