

Executive Summary: Health Impact Review of SB 5571

Increasing Public Awareness of Mental Illness and Its Consequences

Evidence indicates that SB 5571 has potential to increase knowledge of mental health issues, decrease mental health stigma, and lead to positive behavior changes such as increased help-seeking, all of which have potential to improve health outcomes. The campaign target populations specified in the bill disproportionately experience negative mental health outcomes, stigma, and barriers to care; therefore improving health outcomes for these populations would likely decrease health disparities.

BILL INFORMATION

Sponsors: Senators McAuliffe, Litzow, Keiser, Dammeier, Rolfes, Rivers, Mullet, Kohl-Welles, Parlette, Shin, Ranker, Kline, Murray

Summary of Bill:

- The Department of Social and Health Services (DSHS) must develop and conduct a public awareness and education campaign regarding mental health issues among adults and children.
- The campaign must include information about a number of aspects of mental health including stigma, prevalence of disorders, treatment efficacy, and benefits of early identification.
- The campaign must be proportional across the state and targeted to reach persons from culturally and economically diverse backgrounds and geographically isolated areas; who have low literacy or limited ability in the English language; or who are from special populations.

HEALTH IMPACT REVIEW

Summary of Findings:

We have assumed, based on bill language and correspondence with DSHS, that when developing this campaign DSHS will tailor the campaign messaging appropriately to the target populations.

This health impact review found the following evidence regarding the provisions in SB 5571:

- Minimal evidence that a mental health campaign would decrease stigma associated with mental health issues and treatment.*
- Minimal evidence that a mental health campaign would lead to positive behavior changes such as increased help-seeking and help-offering.*
- Some evidence that a campaign would increase public knowledge of mental health issues.*
- Strong evidence that increased awareness and knowledge of mental health would decrease stigma associated with mental health issues and treatment.
- Strong evidence that decreasing mental health stigma would improve health outcomes.
- Strong evidence that decreased mental health stigma would lead to positive behavior changes.
- Very strong evidence that these positive behavior changes would improve health outcomes.
- Very strong evidence that the target populations for the campaign as outlined in the bill disproportionately experience negative mental health outcomes, stigma, and barriers to care—so improving health outcomes for these populations would likely decrease health disparities.

*Note that while there is only ‘some’ or ‘minimal’ recent evidence for the efficacy of mental health awareness and education campaigns, this is largely because mental health campaigns have not been well researched. There is a much larger body of literature exploring the efficacy of health promotion campaigns, including campaigns targeting other highly stigmatized health issues. The efficacy of these campaigns was not explored as it fell outside of the scope of this review.

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Health Impact Review of SB 5571
Increasing Public Awareness of Mental Illness and Its Consequences

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Introduction and Methods

A health impact review is an analysis of how a proposed legislative or budgetary change will likely impact health and health disparities in Washington state ([RCW 43.20.285](#)). For the purpose of this review ‘health disparities’ have been defined as the differences in disease, death, and other adverse health conditions that exist between populations ([RCW 43.20.270](#)). This document provides summaries of the evidence analyzed by State Board of Health staff during the health impact review of Senate Bill 5571 ([SB 5571](#)).

Staff analyzed the content of SB 5571 and created a logic model depicting possible pathways leading from the provisions of the bill to health outcomes. Staff consulted with experts on health and conducted objective reviews of the literature for each component of the pathway using databases including PubMed and Google Scholar.

The following pages provide:

- A detailed analysis of the bill including a summary of the bill and the logic model.
- Annotated references with summaries of the findings for each research question.

The logic model is presented both in text and through a flowchart (Figure 1). The logic model includes information on the strength of the evidence for each relationship. The strength-of-evidence has been defined using the following criteria:

- **Minimal evidence:** the literature review yielded only one study supporting the association, *or* the literature review yielded several studies supporting the association but also some studies which found no association or a negative relationship.
- **Some evidence:** the literature review yielded several studies supporting the association, but a large body of evidence was not established.
- **Strong evidence:** the literature review yielded a large body of evidence on the relationship (a majority of which supported the association) but the body of evidence contained some contradictory findings, did not incorporate the most robust study designs or data analysis, had significant but not meaningful results, or some combination of these. Any relationship where the language of the bill explicitly indicated that the work must be evidence-based was considered a strong connection.
- **Very strong evidence:** the literature review yielded a very large body of robust evidence supporting the association with few if any contradictory findings. The evidence indicates that the scientific community largely accepts the existence of the association.

In some cases the strength-of-evidence is limited because the body of evidence contains conflicting findings or poor study designs, and in other cases it is limited because the relationship has not been extensively researched. Therefore a classification of ‘minimal’ or ‘some evidence’ does not necessarily indicate that the relationship is not strong, but rather may indicate that it has not yet been studied. The summaries in the reference list provide further explanations behind the strength-of-evidence assigned to each relationship in the pathway, including details on the breadth and robustness of the literature.

This review was subject to time constraints, which allowed for only a preliminary search of the evidence. The annotated references are only a representation of the evidence and provide examples of current research. In many cases only a few review articles or meta-analyses are referenced. One article may cite or provide analysis of dozens of other articles. Therefore the number of references included in the bibliography does not necessarily reflect the strength-of-evidence. In addition, some articles provide evidence for more than one research question so they are referenced for multiple research questions.

Analysis of SB 5571 and the Scientific Evidence

Summary of SB 5571

- The Department of Social and Health Services (DSHS) (subject to funding) in collaboration with the Office of the Superintendent of Public Instruction (OSPI), the Department of Health (DOH), and the Regional Support Networks must develop and conduct a public awareness and education campaign regarding mental health issues among adults and children.
- The campaign must include information about a number of aspects of mental health including the benefits of early identification, appropriate referral, appropriate treatment of those with mental health issues, mental health stigma, prevalence of mental health issues, and efficacy of treatment.
- The campaign must be proportional across the state and targeted to reach persons from culturally and economically diverse backgrounds and geographically isolated areas; who have low literacy or limited ability in the English language; or who are from special populations including homeless and gay, lesbian, bisexual, and transgender youth.

Health impact of SB 5571

Evidence indicates that SB 5571 has potential to increase knowledge of mental health issues, decrease mental health stigma, and lead to positive behavior changes, all of which have potential to improve health outcomes. The campaign target populations specified in the bill disproportionately experience negative mental health outcomes, stigma, and barriers to care; therefore improving health outcomes for these populations would likely decrease health disparities.

Pathways to health impacts

We have assumed, based on bill language and correspondence with DSHS, that when developing this campaign DSHS will tailor the campaign messaging to the target populations using culturally and linguistically appropriate methods. There is some evidence that mental health awareness and education campaigns are associated with increased awareness and knowledge of mental health issues.¹⁻⁶ There is minimal evidence that these campaigns are associated with decreased mental health stigma,^{1-5,7} and with positive behavior changes such as increased help-seeking and help-offering.^{1,2,4,5,8-10} There is strong evidence that increased knowledge of mental health issues is associated with decreased stigma,¹¹⁻¹⁷ which in turn has potential to improve health outcomes.¹⁸⁻²¹ In addition, there is strong evidence that decreased stigma is also associated with positive behavior changes such as increased help-seeking and compliance with treatment.^{12,19,20,22-26} There is very strong evidence that these positive behavior changes are associated with improved health outcomes.^{23,27-29} The campaign target populations specified in the bill disproportionately experience negative mental health outcomes, stigma, and barriers to care; therefore improving health outcomes for these populations would likely decrease health disparities.^{12,19,20,22,30-39}

Due to time limitations, Board of Health staff only researched the primary connections between the provisions of the bill and decreased health disparities and did not explore the evidence for all possible pathways. For example, evidence for the impact of mental health stigma on education, housing, and employment opportunities, and the pathways between these factors and health are not included in this review. In addition, very few studies have been conducted on the efficacy of mental health campaigns specifically, but there is a larger body of evidence exploring the efficacy of health promotion campaigns in general, including for campaigns targeting other highly stigmatized health issues such as HIV. This review did not explore the efficacy of health promotion campaigns outside of mental health or how translatable findings for health campaigns in general are to mental health campaigns specifically.

Logic Model

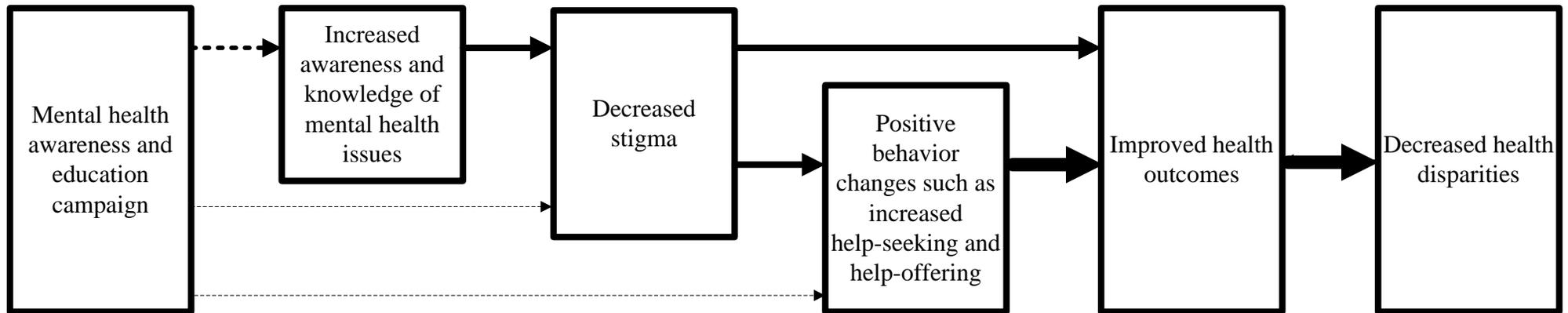
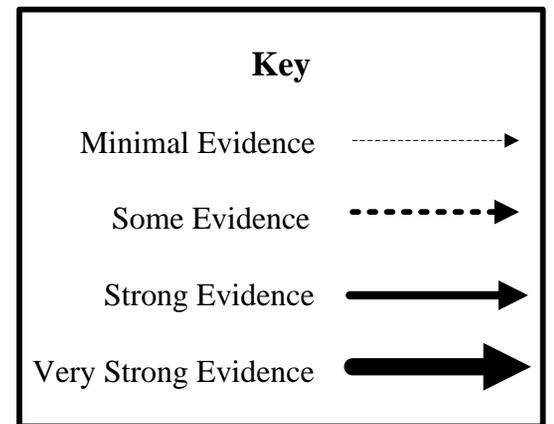


Figure 1
Increasing Public Awareness of Mental Illness
and Its Consequences
SB 5571



Note that while there is only ‘some’ or ‘minimal’ recent evidence for the efficacy of mental health awareness and education campaigns, this is largely because mental health campaigns have not been well researched so the body of evidence on these specific campaigns is minimal.

Summaries of Findings

Do mental health awareness and education campaigns increase awareness and knowledge of mental health issues?

A preliminary review of the evidence yielded some evidence that mental health awareness and education campaigns may increase awareness and knowledge of mental health issues. This review identified ten studies published after 2007 on the efficacy of mental health awareness campaigns. Six of these studies directly evaluated how the campaigns impacted knowledge and awareness of mental health issues. All six of these studies found significant increases in knowledge or awareness on at least some measures. These included topics such as knowing what advice to give to a friend who is experiencing mental health issues, awareness of the stigma associated with mental health issues, and awareness of mental health resources.¹⁻⁶ Note that three additional studies measured behavior outcomes but not knowledge/awareness outcomes and found changes in behaviors such as accessing resources and treatment. It is possible that an increase in awareness of these resources was a mediating factor which contributed to the behavior changes following the campaign.⁸⁻¹⁰

Do mental health awareness and education campaigns decrease stigma associated with mental health issues and treatment?

A preliminary review of the evidence yielded minimal evidence indicating that mental health awareness and education campaigns decrease stigma associated with mental health issues and treatment. This relationship has not yet been well studied. This review identified ten studies published after 2007 on the efficacy of mental health awareness campaigns. Six of these studies directly evaluated the impact of the campaign on attitudes and stigma associated with mental health issues. Four of these six studies found that the campaign was associated with decreased stigma in at least some measures. These included decreased social distancing (e.g. increased willingness to invite someone with mental health issues to their home), increased comfort discussing mental health with others, and increased likelihood of viewing mental health services as helpful. Two of the six studies that evaluated the impacts of campaigns on mental health stigma found no significant changes to stigma or measures of attitudes or beliefs associated with mental health issues.^{1-5,7} Note that three additional studies measured behavior outcomes but not attitude/stigma outcomes and found changes in behaviors such as accessing resources and treatment. It is possible that a decrease in stigma associated with mental health was a mediating factor which contributed to the behavior changes following the campaign.⁸⁻¹⁰

Do mental health awareness and education campaigns facilitate positive behavior changes such as increased help-seeking and help-offering?

A preliminary review of the evidence yielded minimal evidence that mental health awareness and education campaigns facilitate positive behavior changes such as increased help-seeking and help-offering. This relationship has not yet been well researched. The reviewed identified ten studies published after 2007 on the efficacy of mental health awareness campaigns. Seven of these studies directly evaluated the impact of the campaign on behavior. Five of these seven studies found that the campaign was associated with behavior change, including accessing mental health resources such as websites or suicide hotlines and discussing mental health issues with others. One of these studies evaluated how the campaign impacted treatment delay and found that the campaign was associated with decreased delays in accessing treatment. Two of these seven studies found no significant behavior changes associated with the campaign.^{1,2,4,5,8-10}

Does increased awareness and knowledge of mental health decrease stigma associated with mental health issues and treatment?

There is strong evidence that increased awareness and knowledge of mental health issues is associated with decreased stigma about mental health issues and treatment. A large body of literature has explored this relationship, a majority of which supports an inverse association between knowledge and stigma. Evidence indicates that increased knowledge of mental health issues is associated with more positive feeling about accessing mental health services, decreased blame, and reduced fear of people living with mental health issues. Stigma is multifaceted, as is knowledge/awareness, and the literature reflects this. Some studies have found that: a) different educational approaches and messages have different impacts, b) the same messaging will have different impacts on unique populations (e.g. more effective in stigma reduction for more psychologically flexible participants), or c) the same messaging can have differing impact on different types of stigma (e.g. an educational intervention may decrease blame but have no effect on social distancing stigma).¹¹⁻¹⁷

Does decreasing stigma associated with mental health issues and treatment lead to improved health outcomes?

There is strong evidence that stigma around mental health issues and treatment is associated with poor health outcomes. A large body of evidence has been established on this relationship, a majority of which has found a positive association between mental health stigma and poor health outcomes. These studies have explored both the relationship between internalized, or self-stigma (an individual's agreement with commonly held stereotypes and often an application of those beliefs to self), and perceived public stigma (an individual's perceptions of stigmatizing beliefs held by others). The majority of the recent studies on this topic have found that *self-stigma* is strongly associated with poor health outcomes such as demoralization, symptom severity, decreased help-seeking, hopelessness, poorer self-esteem, lowered empowerment/mastery, decreased quality of life, reduced self-efficacy, and weakened social support/integration. The findings on the association between *perceived public stigma* and poor health outcomes are more conflicting.¹⁸⁻²¹

Does decreasing stigma associated with mental health issues and treatment lead to positive behavior changes such as increased help-seeking and help-offering?

There is strong evidence that stigma associated with mental health issues and treatment acts as a barrier to help-seeking and help-offering behavior. A large body of evidence has found that internalized or self-stigma is associated with decreased likelihood of having accessed mental health care in the past, decreased intent to seek care in the future, and higher barriers to care such as fear of disapproval from parents and peers. The evidence for the impact of perceived public stigma on help-seeking is less clear, as some studies have found no association between perceived public stigma and intention to seek care while other studies have found indirect connections between perceived public stigma and decreased help-seeking.^{12,19,20,22-26}

Does positive behavior changes such as increased help-seeking and help-offering lead to improved health outcomes?

There is very strong evidence for the efficacy of some mental health treatments and interventions. The American Psychological Association has indicated a commitment to evidence-based psychological practices. There is also a growing body of literature supporting the positive association between early detection and treatment and improved outcomes. Note that this does not indicate that all treatments are effective, but rather than there is a very large body of evidence supporting that evidence-based treatments are available.^{23,27-29}

Would improving health outcomes among target populations outlined in SB 5571 decrease health disparities?

There is very strong evidence that mental health disparities do exist both nationally and in Washington state. The specifics of these inequalities are less clear than many other health disparities, but data do very strongly indicate that low income populations experience worse mental health outcomes than their higher income counterparts. In addition, evidence suggests that many communities of color experience higher rates of mental health problems, higher internal and/or perceived public stigma associated with mental health issues and treatment, and lower likelihoods of seeking mental health care. For example, data from Washington state indicate that survey participants who self-reported as multiracial reported significantly higher rates of frequent bad mental health, and American Indian/Alaska Native (AI/AN) youth reported higher rates of depression than their white counterparts. Nationally AI/AN survey respondents reported a higher prevalence of frequent poor mental health days and AI/AN youth were more likely to report considering, planning, or attempting suicide than their white counterparts. Evidence for other disparities exist as well, with rural; lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ); and homeless populations reporting higher rates of mental health problems than their counterparts.^{12,19,20,22,30-39}

Annotated References

1. Corrigan PW. Where is the evidence supporting public service announcements to eliminate mental illness stigma? *Psychiatric Services*. 2012; 63(1): 79-82.

Corrigan provides a review of the literature on the efficacy of public service announcements (PSAs) on decreasing stigma associated with mental illness. The author concludes that research on PSAs is lacking, and although it provides moderate support for penetration (the extent to which a targeted population is made aware of mental illness stigma), it does not currently show that PSAs have meaningful impact on reducing mental health stigma. The author does point out that a reduction in stigma is difficult to measure. In addition this review points out that some PSAs have had a high-level of success in increasing traffic to websites listed at the end of the announcement while others may not have had as great of an impact on this measure.

2. Evans-Lacko S, London J, Little K, Henderson C, Thornicroft G. Evaluation of a brief anti-stigma campaign in Cambridge: do short-term campaigns work? *Bmc Public Health*. 2010; 10.

Evans-Lacko et al. conducted in-person interviews with separate samples before, during, and after a four week campaign in Cambridge, England in 2008 (n=410). The researchers were interested in exploring the effects of a very short-term campaign. The goal of the campaign was to educate the public that they can do something to help concerning mental health issues, about the stigma associated with mental illness, and how common mental health issues are. Campaign activities included a number of different strategies. The researchers used the *Mental Health Knowledge Schedule* to evaluate mental-health related knowledge, the *Community Attitudes towards Mental Illness* scale to assess attitudes toward mental illness, and the *Reported and Intended Behavior Scale* to assess intended behavior. They found that participants showed significant shifts for two out of the six mental health knowledge measures, namely knowledge on what advice to give a friend with a mental health problem on how to get professional help and that medication can be an effective treatment for people with mental health problems. They did not find significant changes in attitudinal or behavioral measures following the campaign.

3. Hoven CW, Doan T, Musa GJ, et al. Worldwide child and adolescent mental health begins with awareness: a preliminary assessment in nine countries. *International Review of Psychiatry*. 2008; 20(3): 261-70.

A number of global organizations (e.g. World Psychiatric Association and World Health Organization) collaborated to create a Child Mental Health Awareness Task Force. The task force used a comprehensive international search for effective techniques for information dissemination to develop an awareness manual to guide the implementation of mental health awareness campaigns. The task force then conducted a pilot study in nine countries to test the efficacy of site-specific awareness campaigns. These nine countries were deliberately selected in order to assess the usefulness of the manual across a broad spectrum of cultures, languages, and environments. The researchers assessed the change in awareness, knowledge, attitude, and beliefs of the parents, teachers, and student participants. The awareness manual informed each of the campaigns, but the research team tailored the campaigns to the each site. Students were randomly selected using a stratified random sample of schools within the campaign areas at each study site. Parents of selected students and teachers in the selected schools were also surveyed. All participants were asked to fill out pre-campaign surveys and then a similar number of participants were recruited to fill out post-campaign surveys one month after the end of the campaign. This included a total of 3,574 participants for the pre-survey and 2,715 participants for the post-survey. Only six of the nine countries collected post-campaign data. The researchers found that across all six sites high percentages of the post-campaign participants reported campaign awareness, and that

following the campaign participants felt more comfortable discussing mental health issues and had increased awareness of mental health issues. Note that these pilot studies did not use control groups and that the pre-surveys were used to understand baseline perceptions rather than to compare changes in knowledge/attitudes following the campaign. For example, the post-survey asked student participants if they were more comfortable talking with a teacher or parent about mental health problems following the campaign, so this change was analyzed using the answer to this question on the post-survey rather than comparing answers to questions on comfort between pre-and post-surveys. This indicates that the findings were dependent on the participants' perceptions of their changes in attitudes and knowledge after the campaign. The data do reveal that large numbers of participants did perceive changes in knowledge/attitude though. For example, over 75% of teachers expressed that they felt more comfortable talking with students about mental health issues following the campaign, with similar findings for the percentage of students and parents who felt more comfortable discussing these issues following the campaign.

4. Livingston JD, Tugwell A, Korf-Uzan K, Cianfrone M, Coniglio, C. Evaluation of a campaign to improve awareness and attitudes of young people towards mental health issues. *Social Psychiatry and Psychiatric Epidemiology*. 2013; 48(6): 965-973.

Livingston et al. evaluated the efficacy of the *In One Voice* campaign. The campaign goals included increasing the use of an interactive, educational website (mindcheck.ca) and raising awareness and improving attitudes of youth and young adults toward mental health issues. The *In One Voice* campaign is a brief, two-month social media intervention that was run in British Columbia, Canada and involved a Canadian male professional hockey team. The researchers collected baseline data (n=403) and post-intervention data (n=403) through online surveys using two distinct samples of participants ages 13-25 years. In addition they analyzed website utilization data from before and after the campaign. Nearly one quarter of the post-intervention survey respondents remembered being exposed to the campaign. The most commonly recalled messages included "help for mental health issues are available," "mental health issues are common and can happen to anyone," and "people should talk more about mental health issues." Survey responses also indicated that there was a significant increase in awareness of the mindcheck.ca website among the post-intervention group among adults (though not among youth). The website use data supported this finding as following the campaign the website saw significantly increased usage. Activity on the website showed a large increase during the first week following the campaign launch, with a 1,531% increase in website visits. This growth in awareness of the website was more dramatic for white respondents than from those from other racial/ethnic backgrounds. The data did not show significant increases in the respondents' self-rated ability to help a friend experiencing mental health issues or significant differences in attitudes toward mental health issues for most measures. The post-intervention group was significantly more willing to invite someone with a mental illness to their home. The researchers also found no significant difference in stigma and social distancing measures between those who were and were not exposed to the campaign. The data also indicate that those exposed to the campaign were more likely to discuss mental health issues with others, make an effort to learn about mental health issues, or help someone experiencing mental health issues than those who were not exposed. The data also revealed that personal stigma and social distance were significantly different across demographic measures, with more positive beliefs reported by females, young adults (versus youth), white respondents, and those who had personal experience with mental health issues.

5. Wang J, Hausermann M, Berrut S, Weiss MG. The impact of a depression awareness campaign on mental health literacy and mental morbidity among gay men. *Journal of Affective Disorders*. 2013; 150(2): 306-312.

Wang et al. analyzed data from the 2007 (n=276) and 2011 (n=486) *Geneva Gay Men's Health Survey*. The data from these two survey years was analyzed in order to assess measures both before

and after implementation of the *Blues-out* depression awareness campaign in Geneva, Switzerland which targeted the gay/lesbian community. The campaign materials were adapted for these target populations from a campaign developed for the general population. The sample included self-identified gay men and men who have sex with men. The response rate both years was less than 45%. The researchers found no significant difference in attitudes or knowledge on measures of help-seeking, depression, or suicidality before and after the campaign. The researchers also found that while there was no change between the 2007 and 2011 participants in prevalence of suicide attempts; they did observe significant declines in lifetime prevalence of suicide ideation and suicide plans, self-reported lifetime depression, and 4-week psychological distress. The authors acknowledge that this aligns with a general trend of a decline in suicidal ideation between 2007 and 2011 and that the effect sizes were small. They also found that participants who were aware of the *Blues-out* campaign (nearly 33% of respondents in 2011) were more able to identify depression, find specialists such as psychiatrists to be helpful, and were more likely to understand the risk of gay men in encountering depression. This study did not use a control group due to logistic constraints.

6. Zanjani F, Kruger T, Murray D. Evaluation of the mental healthiness aging initiative: community program to promote awareness about mental health and aging issues. *Community Mental Health Journal*. 2012; 48(2): 193-201.

The *Mental Health Aging Initiative* involves a number of components including a community mental health and aging awareness program. This awareness program was designed to increase knowledge about mental health and aging. This study involved three populations: the intervention group, the partial intervention group, and the control group. The intervention group included counties which received the full intervention which included a community focus group (one per county) which was used to inform the training of Extension Agents who then did trainings in their communities; community tools to be distributed by the Extension Agents (e.g. bookmarkers, calendars, and pamphlets with information on mental health); and a one-month long television-based social marketing campaign (n=11 counties). The partial intervention counties received only the television-based social marketing campaign (n=29 counties), and the control counties received no intervention (n=27). All of the counties were in Kentucky. The researchers conducted random telephone surveys across all of these counties (with a total of 774 surveys conducted). The surveys included questions on mental health awareness and knowledge including questions on mental health and aging. The researchers found that the intervention and partial intervention counties better understood the risk of consuming alcohol and medications than the control counties, but had poorer recognition of both drinking problems in older adults and the role of loss of a loved one in depression. In addition, the full intervention counties were more likely to agree that they were able to assist older adults who may have a mental illness than the partial intervention. Note that the researchers did not ask questions in order to determine if the participant was exposed to the intervention. Overall the findings did not provide strong indications of the efficacy of the intervention as it was delivered.

7. Jorm AF, Wright A. Influences on young people's stigmatising attitudes towards peers with mental disorders: national survey of young Australians and their parents. *The British Journal of Psychiatry: The Journal of Mental Science*. 2008; 192(2): 144-9.

Jorm et al. analyzed data from a random-sample national telephone survey of young Australians (n=3,746) and their parents (n=2,005). The researchers collected data on a number of measures related to mental health stigma by reading each participant a vignette of a young person with a mental health issue and then asking them a series of survey questions. They also asked the participants if they had received information at school or work on mental health issues and if they were familiar with the *Beyondblue* campaign (a national depression initiative). Participants who

were aware of the national depression campaign or who had received information at school or work were significantly less likely than those who were not aware of the campaign to indicate that the person in the vignette was “weak not sick.” Campaign exposure was unrelated to other indicators of stigma such as social distancing and beliefs that those with mental health issues are dangerous or unpredictable.

8. Jenner E, Jenner LW, Matthews-Sterling M, Butts JK, Williams TE. Awareness effects of a youth suicide prevention media campaign in Louisiana. *Suicide & Life-Threatening Behavior*. 2010; 40: 4(394-406).

In 2006 the Louisiana Partnership for Youth Suicide Prevention was awarded a grant to implement a suicide prevention program. This program involved a media campaign with the goal of raising awareness of youth suicide and of available resources. The campaign promoted the use of the *National Suicide Prevention* hotline. Jenner et al. compared the volumes of calls received by the hotline from different ZIP codes where and when the campaign was active versus the areas and times when the campaign was not active. They tracked these call volumes over four years. The authors found that, after controlling for extraneous variation, there were substantially and significantly more calls to the hotline in areas where the campaign was active. The findings suggest that different campaign materials (e.g. movie, busboards, print advertisements, billboards, radio advertisements) may have different levels of impact. The study authors highlight the limitation that the areas where the campaign was targeted were not randomly assigned but rather were assigned based on perceived need.

9. Joa I, Johannessen JO, Auestad B, et al. The key to reducing duration of untreated first psychosis: information campaigns. *Schizophrenia Bulletin*. 2008; 34(3): 466-472.

The early Treatment and Intervention in Psychosis (TIPS I) study was conducted from 1997 to 2000 in Norway and Denmark. The early detection program in Rogaland County in Norway included: 1) intensive information campaigns targeting the general public, schools, and general practitioners with information on how to recognize the signs of psychosis, the importance of getting help early, and how to get help, and 2) low-threshold early-detection teams working within the county psychiatric system. The researchers use a second health sector in Norway and one in Denmark as control sectors. The study found that the intervention sectors did experience reductions in treatment delay or ‘duration of untreated psychosis’ (DUP), less severe psychotic symptoms, and milder functional deficits prior to treatment. In 2001 the information campaigns ended, but the early detection component was maintained in the south sector of Rogaland County. Joa et al. used this opportunity to conduct the TIPS II study to evaluate the effect of discontinuing the campaign in order to determine what role it had played in the overall intervention. The researchers recruited first-episode non-affective psychosis patients from 2002 to 2004 in the sector where the early detection team still existed but the campaign was inactive (n=75) and they compared this sample with patients from the same sector recruited for the TIPS I study when the campaign and detection teams were both active (n=108). The inclusion criteria for participants for the TIPS I and II studies were identical. The researchers controlled for potential confounding factors and found that the DUP was longer for the participant sample drawn after the campaign was no longer running. The researchers conclude that the DUP (the delay in getting treatment) was shorter for sectors with the campaign than those without during the TIPS I study, and that this treatment delay lengthened in the intervention county after the campaign was ended indicating that the campaign was effective in helping to decrease treatment delay.

10. Oliver RJ, Spilsbury JC, Osiecki SS, Denihan WM, Zureick JL, Friedman S. Brief report: preliminary results of a suicide awareness mass media campaign in Cuyahoga County, Ohio. *Suicide & Life-Threatening Behavior*. 2008; 38(2): 245-9.

Cuyahoga County, Ohio's Suicide Prevention Task Force started a campaign to raise awareness of suicide and encourage the use of crisis services available to adults and children. These services include a mobile crisis team which provides evaluation, intervention, referral, and disposition services through a telephone crisis hotline. The campaign involved a number of mediums of outreach (e.g. PSAs, billboards, bus boards) and occurred in two phases. Phase I ran from February to June 2005 and Phase II ran from November 2005 to March 2006. Oliver et al. evaluated the changes in volume of suicide calls to the crisis line before, during, and after the campaign. They did not have access to call volumes in nearby counties so the study did not involve a control group. For this reason they ran two types of call-volume comparisons: a) comparisons between baseline (the 15 months preceding Phase 1) and Phase 1, between Phase I and the hiatus between phases, and between Phase 2 and the hiatus, and b) comparisons between call volumes each month of the campaign and volumes the same month in the previous year. The researchers found that there was a statistically significant increase in suicide-related calls between baseline and Phase I. After Phase I the call rate dropped significantly (although it was still higher than baseline call volumes) but went up again during Phase II reaching the highest volumes during this phase. Data also revealed significant increases in call volume for each month of the campaign compared to the corresponding month in the previous year.

11. Boysen GA, Vogel DL. Education and mental health stigma: the effects of attribution, biased assimilation, and attitude polarization. *Journal of Social and Clinical Psychology*. 2008; 27(5): 447-470.

Boysen and Vogel collected survey data from 232 undergraduate students enrolled in psychology courses at a Midwestern university and a Northeastern college. The participants answered questions about their agreement with statements concerning mental illness and addiction as a way to measure their baseline stigma. The researchers then provided the participants with a few pages of educational material presenting the mental illness or addiction as either a result of biological or psychosocial causes. After reading this educational material, the participants were asked to rate how persuasive the material was. For example, the survey asked how persuasive the educational material was in showing that "dating people who formerly had a mental illness is [is not] OK" or in showing that "it is OK to [you should not] live in a neighborhood with a mental illness treatment center," or in showing "that mental illness is [is not] a sign of weakness." They were asked to rate their perceived attitude change toward mental health issues. Boysen and Vogel found that participants with baseline positive attitudes toward mental illness tended to perceive the educational information as more persuasive evidence not to stigmatize people with mental health issues than participants with baseline negative attitudes. Those with positive attitudes at baseline were also more likely to perceive their attitudes as more positive after the intervention while those with baseline negative attitudes perceived their attitudes as more negative following the intervention. The researchers also found that there were differences in impact based on the mental health issue covered in the educational material (e.g. schizophrenia versus addiction) as well whether it was presented as caused by biological or psychosocial factors. There were also differing effects depending on the stigma measure. For example presenting the biological cause of a mental health issue was more persuasive in removing blame (showing that the issue is not the person's fault) than presenting the psychosocial causes of the issue, while biological and psychosocial explanations both had little effect on social distance stigma. The authors concluded that stigma is complex and that not all components of stigma (e.g. blame, fear, and social distancing) respond to education in the same way. The researchers also concluded that the findings indicate that college-

age students already have set attitudes about mental health issues, that these attitudes affect the way that education impacts their beliefs about mental health, and that this highlights the importance of conducting stigma reduction work with individuals at a much younger age than early adulthood.

12. Chandra A, Minkovitz C. Factors that influence mental health stigma among 8th grade adolescents. *Journal of Youth and Adolescence*. 2007; 36(6): 763-774.

In 2003 Chandra and Minkovitz conducted in-depth interviews with 8th grade students from two middle schools in a mid-Atlantic state (n=57). They intentionally oversampled African American and low-income students. The semi-structured interview guide addressed mental health knowledge, attitudes, and help-seeking behavior. The researchers coded the interviews for themes. They found that students expressed that a positive experience with mental health services made them more positive about seeking mental health care, but that the majority of participants expressed negative experiences associated with mental health services. They also found that students who had limited or inaccurate mental health information held more stigmatizing attitudes toward mental health issues and more negative attitudes toward using mental health services than their peers. A few participants made comments indicating that their views about individuals with mental health issues had become more positive as they gained more knowledge and had contact with individuals with mental health issues. Participants who indicated that they have open conversations with family members about mental health issues held more positive views about discussing and seeking help for mental health issues. The majority of the participants expressed that most peers would react negatively (e.g. teasing, social distancing) if that found out that someone their age was accessing mental health services. In addition, over half of the respondents indicated that their parents would be upset if they were to seek mental health services. The sample only included three Asian participants, but all of these respondents indicated that their parents would react negatively if they sought mental health services. A small number of African American participants expressed their belief that African American parents are generally less accepting of mental health issues than white parents and that they would prefer if their child sought help from church rather than from a mental health professional. The researchers outline the limitations of this study which include self-selection bias.

13. Corrigan P, Larson J, Sells M, Niessen N, Watson A. Will filmed presentations of education and contact diminish mental illness stigma? *Community Mental Health Journal*. 2007; 43(2): 171-181.

Corrigan et al. recruited participants from a Chicago area community college (n=244). The authors indicate that past studies have found that both education and contact with someone living with a mental health issue are associated with decreased stigma. Their goal was to determine if videotaped versions of education and contact would influence stigma and if contact videos would have a different impact than education videos. Participants were randomly assigned to one of two interventions: 1) a ten minute educational video featuring a person living with schizophrenia (without disclosing his mental illness) contrasting the myths of mental illness with the facts and, 2) a ten minute contact video with the same person relaying his life story (e.g. experiences with symptoms leading to hospitalization and his illness and recovery). Participants completed the *Attribution Questionnaire* prior to, immediately following, and one week after watching the video. Participants who watched the education video showed significant decreases in blaming individuals for their mental health issues between the pre-test and both the post-test and the one week follow-up, but also showed a decrease in the belief that power is important for people with a serious mental illness. Participants who watched the contact video showed significant stigma reduction on four measures both at post-test and follow-up: decreased feelings of pity, decreased beliefs that those with mental illness should be avoided or segregated, and increased beliefs that power is important for people living with a serious mental illness. The authors conclude that the education

video had an immediate effect on decreasing blame that endured over time. The contact video had a broader impact on decreasing stigma by impacting social distancing and decreasing pity and increasing empowering feelings toward those with mental health issues.

14. Faulkner G, Irving H, Paglia-Boak A, Adlaf E. Adolescent knowledge of schizophrenia and social distancing: a province-wide survey. *Journal of Community Psychology*. 2010; 38(8): 933-942.

Faulkner et al. analyzed data from a self-administered questionnaire completed by 7th-12th grade students in Ontario, Canada (n=3,117). The students answered questions about how they feel about people with schizophrenia in order to assess their social distancing stigma around this mental health issue. Questions included, “would you make friends with someone who has schizophrenia?” and “would you be afraid to talk to someone who has schizophrenia?” The participants were also asked questions about their knowledge of schizophrenia and well as demographic questions. The researchers found that higher knowledge about schizophrenia was associated with decreased social distancing. Students who were older, female, or who had parents with lower educational attainment also had significantly lower social distancing scores than their counterparts. They did not observe a significant difference in social distancing between rural and urban youth. The authors indicate that these findings support that educational campaigns have potential to reduce social distancing stigma.

15. Masuda A, Hayes SC, Fletcher LB, et al. Impact of acceptance and commitment therapy versus education on stigma toward people with psychological disorders. *Behaviour Research and Therapy*. 2007; 45(11): 2764-2772.

Masuda et al. recruited undergraduate students from psychology courses. They were randomly assigned to either a 150 minute Acceptance and Commitment Therapy (ACT) intervention (n=47) or to an education intervention (n=38). ACT is a behavioral intervention that uses acceptance, mindfulness, and value-directed behavioral change to increase psychological flexibility and can be used to address negative thoughts and feelings and reduce stigma. The education intervention used group activities, discussion, and didactic presentation to replace stigmatizing thoughts with accurate information. The education covered the definition of stigma, common psychological disorders and their prevalence, common stigmas associated with mental health issues, and the social consequences of stigma. Participants completed pre- and post-surveys (before the intervention, immediately after the intervention, and at a one-month follow-up). The *Community Attitudes toward the Mentally Ill* scale was used to assess participant attitudes and the *Acceptance and Action Questionnaire* was used to categorize participants' degree of psychological inflexibility. The data indicate that at post-intervention both groups showed a significant reduction in stigmatizing attitudes compared to pre-intervention assessments. At one-month follow-up these gains had deteriorated, but still showed a significant reduction in stigma compared to pre-intervention. The researchers also found that for the ACT group there was no difference between the psychologically flexible and inflexible participants in their level of stigma both at post-assessment and at follow-up. In contrast, the education group did show that at both of these follow-up time points the flexible participants had lower levels of stigma than at baseline, but that inflexible participants did not experience a decrease in stigma following the education. This indicates that, while both interventions were effective in decreasing stigma, the ACT intervention was equally effective for both flexible and inflexible participants, while the education intervention was only effective for flexible participants. Roughly 30% of participants in both groups were classified as 'psychologically inflexible.'

16. Sharp W, Hargrove DS, Johnson L, Deal WP. Mental health education: an evaluation of a classroom based strategy to modify help seeking for mental health problems. *Journal of College Student Development*. 2006; 47(4): 419-438.

Sharp et al. delivered a 40 minute classroom-based educational intervention to 123 undergraduate students enrolled in psychology courses at a large public university. The students volunteered to participate in the study and were then randomly assigned to either the education intervention group or the control group. The two groups did not differ on a number of factors (e.g. age, marital status, previous experience with therapy), but the intervention group did have significantly more psychology majors than the control group. The educational intervention involved components on normalizing mental health illness (mitigating stigma), the issue of treatment fearfulness, and information on local mental health resources. The researchers had participants fill out pre- and post-intervention assessment forms as well as assessment forms at a four week follow-up. The assessments captured information on the participants' attitudes toward seeking professional psychological care and opinions toward mental illness as well as help-seeking behavior in the month following the intervention. The authors found that the increase in help-seeking attitudes was significantly greater among the intervention group than the control group post-intervention (medium effect size). The intervention group also saw significantly greater decreases in the view that those living with mental illness are dangerous. The intervention did not have a significant impact on any of the other measures. The authors found that the intervention group maintained its increase in help-seeking attitudes at the four week follow-up, but it did not maintain its decrease in beliefs that those living with mental illness are dangerous. They did not observe any differences between the control and intervention group in either seeking mental health care for themselves or referring friends or family to care in the four weeks following the intervention.

17. Yamaguchi S, Mino Y, Uddin S. Strategies and future attempts to reduce stigmatization and increase awareness of mental health problems among young people: a narrative review of educational interventions. *Psychiatry and Clinical Neurosciences*. 2011; 65(5): 405-415.

Yamaguchi et al. conducted a review of the literature on the effects of educational interventions in reducing stigma and improving awareness of mental health problems among young people. Studies on national and media campaigns were excluded. They identified 40 studies which met the inclusion criteria. These studies included three intervention types: 1) educational, 2) video-based and, 3) contact. Twenty-three of these studies measured knowledge about mental health. Eighteen of these 23 studies (about 78%) reported significant changes in knowledge associated with educational interventions. Thirty-four of these studies measured changes in attitudes toward people with mental health problems following the education or contact intervention. Twenty-seven of these 34 studies (about 80% of the studies) found significant improvements in young people's attitudes toward mental health issues. Twenty studies measured changes in social distance, with 16 of these studies (80%) showing significant positive effects. Some studies that conducted follow-up assessments found that positive changes in participants' knowledge, attitudes, and social distance were not maintained. The authors did not present an analysis of whether an increase in knowledge was associated with improved attitudes or decreased social distancing. They did present a table of studies indicating which studies showed significant changes and an improvement in knowledge was often accompanied by an improvement in attitude or a reduction in social distancing.

18. Cavelti M, Kvrjic S, Beck EM, Rüsçh N, Vauth R. Self-stigma and its relationship with insight, demoralization, and clinical outcome among people with schizophrenia spectrum disorders. *Comprehensive Psychiatry*. 2012; 53(5): 468-79.

Cavelti et al. recruited patients between the ages of 18 and 65 years of age diagnosed with schizophrenia or schizoaffective disorder from community mental health services in Basel, Switzerland (n=145). The researchers conducted interviews with and collected questionnaires from participants to assess 'insight' (awareness of having a mental disorder, the social consequences, and need for treatment); level of demoralization (such as feelings of hopelessness, worthlessness, pessimism, personal failure, and suicidal ideation); subjective wellbeing; perceived public stigma; self-stigma (e.g. agreement with stereotypes about mental health issues); psychotic and negative symptoms; and measures of psychological, social, and occupational functioning. The researchers found that perceived stigma was associated with endorsement of mental illness stigma commonly held in public (one measure of self-stigma). Because past studies have found that high levels of insight are associated with both positive and negative outcomes (e.g. increased treatment adherence and improved functioning but also depression, hopelessness, and suicidal ideation), the researchers were interested in determining if the level of self-stigma a patient has impacts whether insight leads to negative or positive health outcomes. The authors found that higher levels of insight, self-stigma, and psychotic symptoms were all significantly related to higher levels of demoralization. They conducted modeling to determine if self-stigma was acting as a moderator, a mediator, or both in the relationship between insight and demoralization. They found a good fit for the moderator-model indicating that the positive association between insight and demoralization was more pronounced in patients with higher levels of self-stigma than their counterparts. The mediation-model also showed that self-stigma is a mediator in the relationship between insight and demoralization, indicating that persons with high insight tended to be demoralized, in part due to higher levels of self-stigma. Although the direct relationship between self-stigma and lower levels of functioning and higher levels of psychotic symptoms was not significant, the researchers did find that self-stigma was significantly associated with demoralization, and that demoralization was significantly associated with psychotic symptoms and lower levels of functioning.

19. Eisenberg D, Downs MF, Golberstein E, Zivin K. Stigma and help seeking for mental health among college students. *Medical Care Research and Review : Mcurr.* 2009; 66(5): 522-41.

Eisenberg et al. collected survey data from students at 13 colleges and universities across the United States. They randomly selected undergraduate and graduate students from each participating school to participate in the survey and had a 44% participation rate (n=5,555). Using a non-response survey to determine if the participants differed from the non-responders on specific mental health issues, they found that those who had not responded to the original survey were less likely to have depressive symptoms and use mental health services compared to the participants who responded to the original survey. The authors measured perceived public stigma (the participants perception of how others view mental health issues), personal stigma toward those using mental health services, perceived need for mental health services for themselves in the past 12 months, and actual use of mental health services in the past 12 months (both from professional mental health providers and from nonclinical sources such as friends and religious counselors). The survey also screened for depressive and anxiety disorders and collected demographic information. Perceived public stigma was considerably higher than personal stigma. Men had slightly higher perceived and personal stigma than women. Relative to white students, Asian, black, and Hispanic students had significantly higher perceived stigma. Students who classified their race as 'other' had significantly higher personal stigma scores than their white peers. African American students had the highest perceived stigma while Asian students had the highest level of personal stigma. In addition student who were younger, international, more religious, or from a low-income family had elevated levels of personal stigma compared to their peers. The data also indicated that personal stigma was significantly associated with a lower likelihood of help seeking (e.g. perceived need for help, use of psychotropic medications, use of therapy or counseling, and use of nonclinical

counseling). Perceived public stigma, however, was not significantly associated with these measures of help-seeking.

20. Livingston JD, Boyd JE. Correlates and consequences of internalized stigma for people living with mental illness: a systematic review and meta-analysis. *Social Science & Medicine*. 2010; 71(12): 2150-2161.

Livingston and Boyd conducted a systematic review and meta-analysis of the quantitative literature on the relationship between internalized stigma and sociodemographic, psychosocial, and psychiatric outcomes. The researchers identified 127 articles that fit the inclusion criteria for the systematic review—and 45 of these articles met the stricter inclusion criteria for the meta-analysis. Forty-seven of these studies evaluated the relationship between sociodemographic variables (e.g. gender, age, education, employment, income, and ethnicity). The majority of studies found no significant relationships between these factors and self-stigma. Nine studies evaluated the relationship between ethnicity and self-stigma, five of which found no significant association and four of which found a significant association between being a person of color and increased self-stigma. The meta-analysis also indicated that internalized stigma was significantly associated with all of the measured psychosocial variables: hopelessness, poorer self-esteem, lowered empowerment/mastery, decreased quality of life, reduced self-efficacy, and weakened social support/integration. The authors found that the findings of studies evaluating the relationship between self-stigma and psychiatric variables (e.g. symptom severity, psychiatric diagnosis, hospitalization, illness duration, treatment adherence, functioning, medication side effects) were mixed. Over 83% of the applicable studies found a significant positive association between internalized stigma and symptom severity. Over 63% of the applicable studies found a significant inverse relationship between internalized stigma and treatment adherence. None of the other psychiatric variables were significantly associated with internalized stigma in the majority of applicable studies, although 50% of the eight studies on functioning found that internalized stigma was associated with decreased functioning while the other half of these studies found non-significance. The authors did not weigh the studies by the strength of their study design, but rather only considered the number of studies that supported a positive, negative, or null association.

21. Masuda A, Latzman, RD. Examining associations among factor-analytically derived components of mental health stigma, distress, and psychological flexibility. *Personality and Individual Differences* 2011; 51(4): 435-438.

Masuda and Latzman conducted two studies on the impact of stigma on health. Study 1 collected survey data from 591 undergraduate students to measure their attitudes toward people with psychological disorders (stigma). The researchers found that mental health stigma consists of two distinct but related components: exclusion and course/origin. Exclusion-stigma is associated with negative emotions and beliefs that cause someone to avoid contact with individuals with mental health issues. Course/origin-stigma reflects pessimistic views toward the cause of mental health issues (blame) and the possibility of successful treatment. Masuda and Latzman conducted Study 2 in order to evaluate the impact of holding these two types of stigmatizing beliefs on psychological distress. For this study, they collected survey data from 573 undergraduate students (mostly female). These participants answered questions to assess their stigmatizing beliefs, level of psychological distress, and psychological flexibility. The researchers found that exclusion-stigma was not correlated with distress and was inversely correlated with psychological flexibility. Course/origin-stigma was significantly positively correlated with distress and also inversely correlated with flexibility. This indicates that course/origin-stigma is associated with negative mental health outcomes (e.g. psychological distress) for the stigmatizer. In addition, the authors found that psychological inflexibility fully mediates the association between course/origin-stigma and psychological distress; and they express that these findings may indicate that stigma-reduction interventions could benefit from undermining the rigid patterns (inflexibility) of stigmatizing attitudes.

22. Conner KO, Copeland VC, Grote NK, et al. Mental health treatment seeking among older adults with depression: the impact of stigma and race. *The American Journal of Geriatric Psychiatry: Official Journal of the American Association for Geriatric Psychiatry*. 2010; 18(6): 531-43.

Conner et al. conducted telephone interviews with randomly selected participants who screened positive for mild to moderate depressive symptoms. They interviewed 449 adults but only included the data for older adults in this analysis (n=248). They intentionally oversampled African American participants. In the telephone interview they assessed perceived public stigma and internalized stigma in relation to mental health as well as history of mental health treatment, intention to seek treatment, and attitudes toward mental health services. Over 40% of the participants reported feeling depressed, down, or hopeless at least half of the days over the past two weeks, and 85% reported having been in a depressed mood for at least several days. The researchers found that African American participants had significantly more negative attitudes toward mental health services than their white counterparts (moderate effect size). In addition, negative attitudes about mental health treatment were significantly associated with having never sought mental health treatment. Therefore African American participants were significantly less likely to have ever sought mental health treatment than white participants (despite similar rates of depressive symptoms). The data also indicated that while African Americans did not report significantly different levels of perceived public stigma than their white counterparts, they were significantly more likely to experience internalized mental health stigma than white participants. In addition, internalized stigma partially mediated the relationship between race and attitudes toward seeking treatment. In summary, the researchers found significant relationship between race and level of internalized stigma, between internalized stigma and attitudes toward seeking mental treatment, and between these attitudes and having never sought mental health services. The data also indicated that, contrary to the expectations of the researchers, higher levels of internalized stigma were actually associated with an increased level of intent to seek mental health treatment. The participants with higher internalized stigma scores were also more likely to report severe depressive symptoms though, so the researchers speculated that it may be the severity of their depression which increased both their internalized stigma and their intent to seek care.

23. Franz L, Carter T, Leiner AS, Bergner E, Thompson NJ, Compton MT. Stigma and treatment delay in first-episode psychosis: a grounded theory study. *Early Intervention in Psychiatry*. 2010; 4(1): 47-56.

Franz et al. cite evidence in their introduction that a longer duration of untreated psychosis (DUP) is associated with longer time to symptom remission once treatment is started, less effective recovery, greater likelihood of relapse, and worse overall outcomes. They also cite evidence that early treatment is associated with decreased suicidality and negative symptoms. The researchers conducted interviews with participants and conducted both qualitative and quantitative analysis. Participants included African American patients hospitalized in the south-eastern United States for a first episode of schizophrenia-spectrum disorder and their relatives. The sample included ten patients and 12 of their relatives. The researchers identified a number of themes from these interviews. Participants indicated that society's reaction toward those dealing with mental health issues was very negative and that society then initiates both social distancing and negative labeling. Many participants also expressed fear that having their family member formally diagnosed with a mental illness would create an official label that would be associated with negative stereotypes. The researchers also found that eight of the 10 patients had very high thresholds for initiating treatment (such as violent or suicidal behavior or contact with the police). Relative participants made comments expressing that they weren't paying attention to, hid, or were in denial about the

signs or didn't realize the severity of their family member's symptoms. The authors conclude that these comments indicate that stigma associated with mental health issues may be serving as a barrier to accessing treatment and to may be increasing DUP.

24. Golberstein E, Eisenberg D, Gollust SE. Perceived stigma and help-seeking behavior:

longitudinal evidence from the healthy minds study. *Psychiatric Services*. 2009; 60(9): 1254-6.

Golberstein et al. analyzed data from the 2005 Healthy Minds Study, a web-based random sample survey of undergraduate and graduate students at a public university. Then in 2007 the researchers collected follow-up surveys from the respondents to the 2005 survey who were still enrolled at the school. They had a total of 732 students complete both the baseline and follow-up survey. The authors found that perceived public stigma in 2005 was not associated with either perceived need for help or help-seeking behavior over the following two years. This was true of both the total sample and of a subsample which only included participants who screened positive in either 2005 or 2007 for depression or anxiety. This study did not measure self-stigma and therefore does not make any conclusions about the relationship between self-stigma and help-seeking.

25. Pietrzak RH, Johnson DC, Goldstein MB, Malley JC, Southwick SM. Perceived stigma and barriers to mental health care utilization among OEF-OIF veterans. *Psychiatric Services*. 2009; 60(8): 1118-22.

Pietrzak et al. drew participants from the first two waves of the Connecticut Operation Enduring Freedom in Afghanistan and Operation Iraqi Freedom (OEF-OIF) Veterans Needs Assessment Survey. They only had a response rate of 27% (n=272). The survey included questions to assess stigma, barriers to care, substance abuse, and psychiatric disorders. Participants who screened positive for a psychiatric disorder scored higher on the stigma scale and on the barriers-to-care scale and were also more likely to endorse the stigma items and barriers-to-care items than their counterparts. The authors also found that negative beliefs about mental health care and lack of unit support were significant predictors of both increased stigma and barriers-to-care scores. For example agreement with statements such as "therapy is a sign of weakness" were associated with increased stigma and higher barriers to accessing care. Participants with negative beliefs about mental health care were less likely to have received care (both counseling and medication services) in the six months prior to the survey.

26. Schomerus G, Matschinger H, Angermeyer MC. The stigma of psychiatric treatment and help-seeking intentions for depression. *European Archives of Psychiatry and Clinical Neuroscience*. 2009; 259(5): 298-306.

Schomerus et al. collected data through random telephone surveys in Germany. The researchers played a pre-recorded case-vignette about someone with major depression to the survey participants. Participants were then asked to imagine that they were the character in the vignette and to answer several questions. The researchers found that, when imagining themselves as the character in the vignette, 68% of participants expected discrimination when applying for a job. Nearly 19% of participants indicated that they would be unwilling to sublet a room, and over 17% would not recommend someone for a job if they were suffering from depression. They also found that a greater desire for social distance from those with mental health issues, stronger anticipated shame, and higher age were associated with weaker intentions to see a psychiatrist. Anticipated discrimination by others was not significantly associated with intention to seek care. The authors speculate, based on findings in other studies, that anticipated discrimination may not serve as a barrier to accessing mental health care because participants may plan to keep their care a secret.

27. American Psychological Association. Evidence-Based Practice in Psychology: APA Presidential Task Force on Evidence-Based Practice. 2006; 61(4): 271–285.

The American Psychological Association (APA) created a policy indicating that the evidence-base for a psychological intervention should be evaluated using both efficacy and clinical utility as criteria. The Association President appointed the APA Presidential Task Force on Evidence-Based Practice and the task force published this document with the primary intent of describing psychology's commitment to evidence-based psychological practices. This document, though, also references many research articles providing evidence for the efficacy of a number of psychological treatments and interventions. The reference list for this document highlights the growing body of evidence of treatment efficacy from the 1970s through 2006. Note that this does not indicate that all treatments are effective, but rather than there is a very large body of evidence supporting that evidence-based treatments are available.

28. Boonstra N, Klaassen R, Sytema S, et al. Duration of untreated psychosis and negative symptoms - a systematic review and meta-analysis of individual patient data. *Schizophrenia Research*. 2012; 142: 12-19.

Boonstra et al. conducted a comprehensive review of the literature on duration of untreated psychosis (DUP) and negative symptoms (an absence of expected emotions and behaviors such as social withdrawal and difficulty expressing emotions) published between 1992 and 2009. They identified 28 studies which met their inclusion criteria. Boonstra et al. then contacted the authors of those studies and obtained individual patient data from 16 of the studies, leading to a total sample size of 3,339. They found that shorter DUP was significantly associated with less severe negative symptoms at baseline and at short and long term follow-up (up to eight years). The association was strong and persistent and showed no signs of diminishing with longer follow-up. They found that for participants with a DUP of less than nine months, DUP and negative symptoms were positively associated while for those patients with a longer DUP negative symptoms were not associated linearly. This indicates that a reduction in DUP may have a greater impact for someone with a DUP less than nine months than for someone with a DUP greater than nine months. The average DUP of participants was over 15 months. The authors indicate that these findings support arguments for early detection and intervention, but also caution that these data indicate association not causation.

29. Goldberg TE, Burdick KE, McCormack J et al. Lack of an inverse relationship between duration of untreated psychosis and cognitive function in first episode schizophrenia. *Schizophr Res* 2009; 107: 262–266.

Goldberg et al. analyzed data from patients in their first episode of schizophrenia or psychosis (n=102). The researchers administered cognitive tests which included measures such as processing speed, episodic memory, working memory, executive function, and motor speed/dexterity. They interviewed the participant and their parents in order to assess DUP. The researchers did not find a relationship between longer DUP and worse cognition or the ability of patients to demonstrate cognitive improvements over time. The authors concluded that their results imply that while early intervention (and shortened DUP) may be essential for symptom amelioration, early treatment may have less of an impact on cognitive function. They assert that these findings are not an argument against early treatment, but rather evidence that psychosis is not toxic to information processing domains in the brain as has been hypothesized.

30. Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System—2010 Data. Available from http://apps.nccd.cdc.gov/s_broker/WEATSQL.exe/weat/freq_analysis.hsqli?survey_year=2010. Accessed March 26, 2014.

National Behavioral Risk Factor Surveillance System (BRFSS) data from 2010 highlight disparities in mental health. Survey participants who reported their race/ethnicity as black, AI/AN, multiple races, or Hispanic had significantly higher rates of frequent bad mental health (defined as 14 or more days of poor mental health in the past 30 days) than white participants. For example about 10% of white participants, over 12% of black participants, and nearly 18% of AI/AN participants reported frequent poor mental health. The data from Washington state indicate similar trends in the differences in prevalence of poor mental health between subpopulations, but most of the differences are not statistically significant. The Washington state data do indicate that participants who self-reported as multiracial reported significantly higher rates of frequent bad mental health than their white counterparts. These data also indicate that both nationally and in Washington state, lower income participants report significantly worse mental health. For example, in Washington state, 18.5% of participants that made 15-25 thousand dollars per year reported frequent poor mental health while 6.4% of participants making greater than 50 thousand dollars per year reported frequent poor mental health. Note that these are descriptive statistics only and this analysis did not control for any potential confounding factors.

31. Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance System—2011 Data. Available from <http://www.cdc.gov/healthyyouth/yrbs/index.htm>. Accessed March 26, 2014.

Youth Risk Behavior Surveillance System (YRBSS) data from 2011 indicate that nationally, white students are significantly more likely to report seriously considering suicide than black student participants. AI/AN students are more likely than their white peers to report seriously considering suicide. Washington state does not participate in this survey, but the city of Seattle does. In Seattle, black students are more likely than their white peers to report contemplating suicide, but this difference does not reach statistical significance. The sample size was too small to report these data for AI/AN youth in Seattle. Nationally AI/AN and Hispanic participants were significantly more likely to report feeling sad or hopeless than their white peers. AI/AN students were also significantly more likely than white students to report making a suicide plan. AI/AN, Asian, and Hispanic, and multiracial participants were significantly more likely than white participants to report having attempted suicide in the 12 month prior to the survey. Note that these are descriptive statistics only and this analysis did not control for any potential confounding factors.

32. Duncan DT, Hatzenbuehler ML. Lesbian, gay, bisexual, and transgender hate crimes and suicidality among a population-based sample of sexual-minority adolescents in Boston. *American Journal of Public Health*. 2013; 5.

Duncan and Hatzenbuehler analyzed 2008 Boston Youth Survey data for 9th through 12th graders. They aggregated data from all students who self-identified as ‘mostly heterosexual,’ ‘bisexual,’ ‘mostly homosexual,’ ‘gay or lesbian,’ or ‘unsure.’ The researchers found that LGBTQ adolescents were more likely to contemplate and attempt suicide than their heterosexual peers. Nearly one third of LGBTQ adolescents reported suicidal ideation in the past year compared to 9.43% of heterosexual youth. They also found that LGBTQ youth who contemplated or attempted suicide were more likely to live in neighborhoods with higher LGBTQ assault hate crimes.

33. Healthy Youth Survey. QxQ Analysis. 2012. Available from <http://www.askhys.net/Analyzer>. Accessed March 26, 2014.

Washington state Healthy Youth Survey data from 2012 indicate that white students report lower rates of depression than all other racial/ethnic groups, but this difference is only significant for AI/AN, Hispanic, and students who reported multiple or 'other' race/ethnicity. For example, about 28% of white students and over 41% of AI/AN students reported feelings that are indicators of depression. There were no statistically significant differences between racial/ethnic groups in reported suicide contemplation, plans, or attempts. In addition, youth who reported living somewhere other than a house or apartment (e.g. a shelter, car, campground, on the street) were more likely than their peers living in a house or apartment to report contemplating suicide. The difference in depression rates for these two subpopulations was not significant. Note that these are descriptive statistics only and this analysis did not control for any potential confounding factors.

34. Lo CC, Cheng TC, Howell RJ. Access to and utilization of health services as pathway to racial disparities in serious mental illness. *Community Mental Health Journal*. 2014; 50(3): 251-257.

Lo et al. explain that while studies have consistently suggested that black participants have better mental health than their white counterparts, other research suggests that these findings may be misleading due to a number of methodological issues. The authors cite studies which indicate the possible existence of the following methodological issues: sampling noninstitutionalized populations thereby missing the large population of incarcerated black men who experience high rates of mental health issues; using mental health assessment tools that are more accurate for white populations than other participants; and that higher levels of mental health stigma among black populations may lead to higher levels of underreporting. In addition, the researchers cite evidence that black participants, when they do develop mental health disorders, may be more likely to develop chronic and persistent disorders than white participants. Lo et al. analyzed adult data from the National Health Interview Survey (n=10,541) in order to determine if black participants did have higher rates of severe mental illness than white participants. The data indicated that chronic mental health issues (defined as having limited activity as a result of an enduring mental health condition) were significantly more prevalent among African Americans than whites. They did not find a significant relationship between race and duration of mental illness.

35. Lutfiyya MN, Bianco JA, Quinlan SK, Hall C, Waring SC. Mental health and mental health care in rural America: the hope of redesigned primary care. *Disease-a-month*. 2012; 58(11): 629-38.

Lutfiyya et al. provide a review of the literature on mental health and mental health care in the rural United States. They highlight evidence that rural communities experience higher prevalence of a number of mental health issues including suicide and depression than do non-rural communities. In addition, the authors provide evidence that rural children and adults are also less likely to get treatment for mental health issues than their urban counterparts.

36. McGuire TG, Miranda J. New evidence regarding racial and ethnic disparities in mental health: policy implications. *Health Affairs*. 2008; 27(2).

McGuire and Miranda provide a review of the literature on racial/ethnic disparities in mental health. They cite evidence up through 2008 indicated that most communities of color reported lower rates of lifetime mental disorders than white communities. In contrast to these findings, the authors cite evidence that when individuals of color do experience mental health issues they suffer from more persistent, numerous, and severe symptoms than their white counterparts. In addition the authors cite evidence that communities of color do experience higher rates of some mental health disorders (e.g. African Americans had higher rates of schizophrenia and Native Americans suffered from higher rates of posttraumatic stress disorder than Caucasians). The authors also provide evidence that communities of

color are less likely to receive needed treatment and more likely to receive poor-quality care when they do receive treatment. In addition, this article mentions the possibility that underdiagnoses of some racial/ethnic groups and over-diagnosis of other racial/ethnic groups for mental health disorders may lead to a misrepresentation of the rates and an inaccurate presentation of possible disparities in prevalence.

37. Munson MR, Floersch JE, Townsend L. Attitudes toward mental health services and illness perceptions among adolescents with mood disorders. *Child and Adolescent Social Work Journal*. 2009; 26(5): 447-466.

Munson et al. analyzed data from a large project funded by the National Institute of Mental Health. This included interview data from 70 adolescents ages 12-17 years living with mood disorders (e.g. depression, bipolar spectrum disorder). The researchers found that the majority of participants had positive attitudes toward seeking mental health services. The authors also note that it is important to take into consideration that the sample was composed of youth who were already accessing mental health service, so this may not reflect the attitudes of the general population. They also found that, after controlling for potential confounding factors, youth of color reported significantly lower scores on the “indifference to stigma” measures—indicating that youth of color were more sensitive to stigma associated with accessing mental health services.

38. Robinson JP, Espelage DL. Bullying explains only part of LGBTQ-heterosexual risk disparities: implications for policy and practice. *Educational Researcher*. 2012; 41(8): 309-319.

Robinson and Espelage analyzed Dane County Youth Assessment survey data from middle and high school students in Wisconsin (n=11,337). They found that all categories of LGBTQ self-identified students were at significantly greater risk for suicidal ideation, suicide attempts, and unexcused absences than their heterosexual peers. LGBTQ youth had over six times higher odds than their heterosexual peers of contemplating suicide, and over seven times higher odds of attempting suicide. In the modeling higher rates of being bullied (peer-victimization) among LGBTQ youth accounted for some, but not all, of these differences.

39. Ta V, Juon H, Gielen A, Steinwachs D, Duggan A. Disparities in use of mental health and substance abuse services by Asian and Native Hawaiian/Other Pacific Islander women. *The Journal of Behavioral Health Services & Research*. 2008; 35(1): 20-36.

Ta et al. cite evidence in their introduction indicating that communities of color experience greater disability burden from mental health disorders compared to white communities due to receiving less and worse quality mental health care and being less likely to seek care due to issues such as stigma and financial barriers. They also highlight previous research indicating that Asian and Native Hawaiian/Other Pacific Islanders (NHOPI) overall have lower prevalence of substance use than other racial/ethnic group in the United States, but that rates differ among subgroups of this population. The authors analyzed data from a random, cross-sectional sample of mothers in Hawaii (n=709). They found that white participants were more likely than Asian and NHOPI participants to report having accessed mental health/substance abuse services. In addition, among participants who screened positive for depression, Asians and NHOPI participants were significantly less likely than white participants to have ever received mental health/substance abuse services. The researchers note that one limitation of this study is that questions grouped mental health and substance abuse services therefore disallowing for analysis showing distinctions between the two. In addition, this study excluded participants with limited English proficiency.