

# Depression-related stigma among primary care providers

Andrew Kluemper, PharmD, BCPS, BCPP<sup>1</sup>; Lauren Heath, PharmD, MS, BCACP<sup>2</sup>;  
 Danielle Loeb, MD, MPH<sup>3</sup>; Miranda Kroehl, MS, PhD<sup>4</sup>; Katy Trinkley, PharmD, BCACP<sup>5</sup>

**How to cite:** Kluemper A, Heath L, Loeb D, Kroehl M, Trinkley K. Depression-related stigma among primary care providers. *Ment Health Clin* [Internet]. 2021;11(3):175-80. DOI: 10.9740/mhc.2021.05.175.

## Abstract

**Introduction:** Depression is one of the most common mental illnesses in the United States and is often treated in primary care settings. Despite its prevalence, depression remains underdiagnosed and undertreated for a variety of reasons, including stigma. This may result in suboptimal management of depression. Studies evaluating stigma in US primary care providers (PCP) are scarce. The main objective of this study was to describe stigma in a cohort of PCPs.

**Methods:** We utilized a validated questionnaire to measure stigma (score range 15 to 75 with lower scores indicating lower stigma levels). PCPs in 2 academic internal medicine clinics were sent an electronic questionnaire and received a small monetary incentive for responding. In addition to the stigma survey, we collected demographic data, including age, provider type, gender, and other data related to social proximity to mental illness. To describe stigma, differences in stigma between provider characteristics were evaluated using *t* tests and ANOVA tests as appropriate.

**Results:** Of 107 PCPs, 71 responded (66.4% response rate). Male responders displayed higher stigma scores than females (31.8 vs 27.4,  $P=.0021$ ). Medical residents displayed higher stigma scores than nonresidents (31.3 vs 27.2,  $P=.0045$ ). Providers with personal exposure to mental illness and those who reported they frequently treated depression had less stigma.

**Discussion:** Overall, a range of stigma was present among PCPs surveyed. Higher levels of stigma were found in men, medical residents, those without personal exposure to mental illness, younger PCPs, and those who reported treating depression less frequently. Future studies should utilize larger sample sizes and focus on the impact of stigma on quality of care.

**Keywords:** mental illness, stigma, depression, major depressive disorder, MDD, primary care

<sup>1</sup> (Corresponding author) Clinical Pharmacist, University of Colorado Hospital, Aurora, Colorado, [Andrew.Kluemper@uchealth.org](mailto:Andrew.Kluemper@uchealth.org), ORCID: <https://orcid.org/0000-0001-8737-0204>; <sup>2</sup> Assistant Professor, University of Utah College of Pharmacy, Salt Lake City, Utah, ORCID: <https://orcid.org/0000-0002-0255-3501>; <sup>3</sup> Associate Professor—Internal Medicine, University of Colorado School of Medicine, Aurora, Colorado, ORCID: <https://orcid.org/0000-0003-1688-8799>; <sup>4</sup> Biostatistician, Charter Communications Corporation, Greenwood Village, Colorado, ORCID: <https://orcid.org/0000-0002-3840-3660>; <sup>5</sup> Associate Professor, University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences, Aurora, Colorado, ORCID: <https://orcid.org/0000-0003-2041-7404>

**Disclosures:** The authors have no conflicts of interest to declare.

## Background

MDD (commonly referred to as *depression*) is one of the most common mental illnesses. Depression impacts more than 16 million US adults with a lifetime prevalence of 16.2%.<sup>1</sup> The most recent World Health Organization report ranks depression as the number 1 cause of disease burden in first-world countries with an estimated cost of more than \$200 billion in the United States.<sup>2-4</sup> Despite the ubiquity of depression, it remains underdiagnosed and undertreated with the majority of uncomplicated depression managed in primary care. Ani et al<sup>5</sup> found that approximately only a third of patients with symptoms of clinical depression had been diagnosed by a primary care

provider (PCP). The other 2 thirds remained undiagnosed and untreated.<sup>6-8</sup> Depression management is 1 of the many responsibilities of PCPs; thus, prioritization of other disease states or acute concerns may contribute to undertreatment and underdiagnosis; however, this has not been widely studied. Additional reasons for suboptimal management may include lack of appropriate provider training, misconceptions about depression, and/or stigma.<sup>9-16</sup> Addressing reasons for suboptimal management is critical to improving care delivery and quality of life for millions across the world.

Stigma is defined as “a set of negative and often unfair beliefs that a society or group of people have about something.”<sup>17</sup> Subdomains of stigma include perceived stigma (patients believing their providers have stigma toward mental illness), self-stigma (holding false beliefs about one’s condition), social distance (desiring to avoid people toward which one has stigma), danger or violence, helping, and negativism (as opposed to a belief in recovery).<sup>6</sup> As such, provider stigma can negatively impact patient care<sup>6</sup> whether intentional or not. Stigma can result in providers prioritizing care of other disease states they perceive to be of greater importance, dismissing patient complaints unrelated to mental health by falsely attributing them to mental health, and treating or caring for patients differently based on their mental health. Stigma may also negatively impact the therapeutic alliance, which can have further negative effects on care. Currently, studies evaluating provider stigma have conflicting results, likely due to the multifactorial nature of stigma and populations studied. In general, studies from non-US countries suggest PCPs have a higher degree of stigma related to depression than mental health specialists.<sup>9,16,18-21</sup> However, there is a paucity of studies evaluating stigma among US PCPs, and findings from other countries are not necessarily generalizable to US PCPs given potential differences in culture and beliefs.<sup>7,18-21</sup>

Understanding the current state of stigma among US PCPs is an important step to breaking down potential barriers to optimal depression management and outcomes. Identifying PCP characteristics associated with increased likelihood of stigma can lead to the development of targeted interventions to reduce stigma, which we hope will lead to improvements in depression diagnosis, management, and remission. Therefore, the purpose of this study is to describe stigma among PCPs in 2 US-based, academic internal medicine clinics.

## Methods

This was a cross-sectional survey study conducted at 2 internal medicine primary care clinics within the same US

**TABLE 1: Characteristics of primary care providers (PCP) responders**

PCP Characteristic	No. (%)
Female	37 (52)
Attending physician or advanced practice provider <sup>a</sup>	32 (45.1)
Medical resident	39 (54.9)
Age, y	
25 to 29	24 (33.8)
30 to 39	20 (28.2)
40 to 49	13 (18.3)
50 and older	14 (19.7)
Do you or someone you know have a mental illness?	
Yes	60 (84.5)
No	10 (14.1)
Prefer not to answer	1 (1.4)
Are you or someone you know in treatment for a mental illness?	
Yes	51 (71.8)
No	19 (26.8)
Prefer not to answer	1 (1.4)
PHQ-9 assessment confidence	
Excellent	28 (39.4)
Above average	36 (50.7)
Below average	7 (9.9)
Frequency of diagnosing depression	
Rarely/occasionally	28 (39.4)
Frequently	43 (60.6)
Frequency of treating depression	
Rarely/occasionally	23 (32.4)
Frequently	48 (67.6)

PHQ-9 = Patient Health Questionnaire.

<sup>a</sup>n = 2 advanced practice providers (ie, nurse practitioners and physician assistants).

health system. To measure stigma, a modified version of the validated Opening Minds Scale for Health Care Providers (OMS-HC) was used. This tool was originally developed to measure the impact of antistigma interventions for patients with mental illness generally.<sup>6,22</sup> The OMS-HC includes fifteen 5-point Likert scale questions. Questions are categorized into 1 of 3 stigma domains (attitudes toward people with mental illness, disclosure/help seeking, and social distance). OMS-HC total scores range from 15 (*less stigma*) to 75 (*more stigma*). The OMS-HC was modified by changing *mental illness* to *depression* in each question stem to more accurately identify provider stigma toward depression versus other mental illnesses. In addition to the 15 OMS-HC questions, 10 questions (listed in Table 1) were added to assess provider demographics, information thought to influence stigma (eg, whether or not the provider or someone the provider knows is diagnosed with a mental illness), and experience and

confidence managing depression (eg, confidence in assessing a Patient Health Questionnaire [PHQ-9], frequency of treating depression). The PHQ-9 is a validated tool commonly used in primary care settings to screen for depression and assess symptom response to treatment. PHQ-9 administration frequency and other depression screening tools are used to quantify care quality by numerous organizations, including the Center for Medicaid and Medicare Services.<sup>23-26</sup>

The final survey included 25 questions and was distributed electronically using the REDCap platform<sup>27</sup> to all PCPs in the 2 clinics (ie, advanced practice providers, medical residents, and attending physicians). PCPs who were study investigators were not asked to complete the questionnaire. The survey was available for a total of 6 weeks and 2 reminders were sent approximately 1 and 2 weeks after the initial invitation. No identifiable information was collected. All providers received a small monetary incentive (\$10 gift card) for responding to the questionnaire. This study was approved by the Colorado Multiple IRB.

## Statistical Analysis

The primary outcome was describing provider stigma related to depression. Secondary outcomes were identification of provider characteristics associated with higher stigma scores and provider characteristics associated with differences in diagnosis and/or treatment of depression. Frequency of diagnosis and treatment of depression were measured by provider self-report to the questionnaire. These variables also had some responses with fewer than 5 responders and were collapsed to provide more robust statistical calculations and maintain anonymity (eg, advanced practice providers [APPs] and attending physicians were grouped into *nonresident providers* as there are <5 APPs who work between both clinics). Descriptive statistics were used to describe the overall stigma scores as well as scores within each stigma domain. Unpaired *t* tests and ANOVA tests were used for between-group comparisons of stigma. To qualify as a significant finding, stigma between groups had to differ both clinically, with a difference of  $\geq 3$  points (total stigma score) or  $\geq 2$  points (stigma domain score), and statistically at a significance level of  $< .05$ . Clinically significant values were determined based on other studies utilizing the 15-question OMS-HC questionnaire.<sup>28</sup> Odds ratios were calculated to determine if certain variables correlated to differences in diagnosis and/or treatment frequency.

## Results

The questionnaire was distributed to 107 PCPs and open from March 28 to May 5, 2017. The response rate was 66.4% (71 providers responded; see Table 1). Thirty-seven

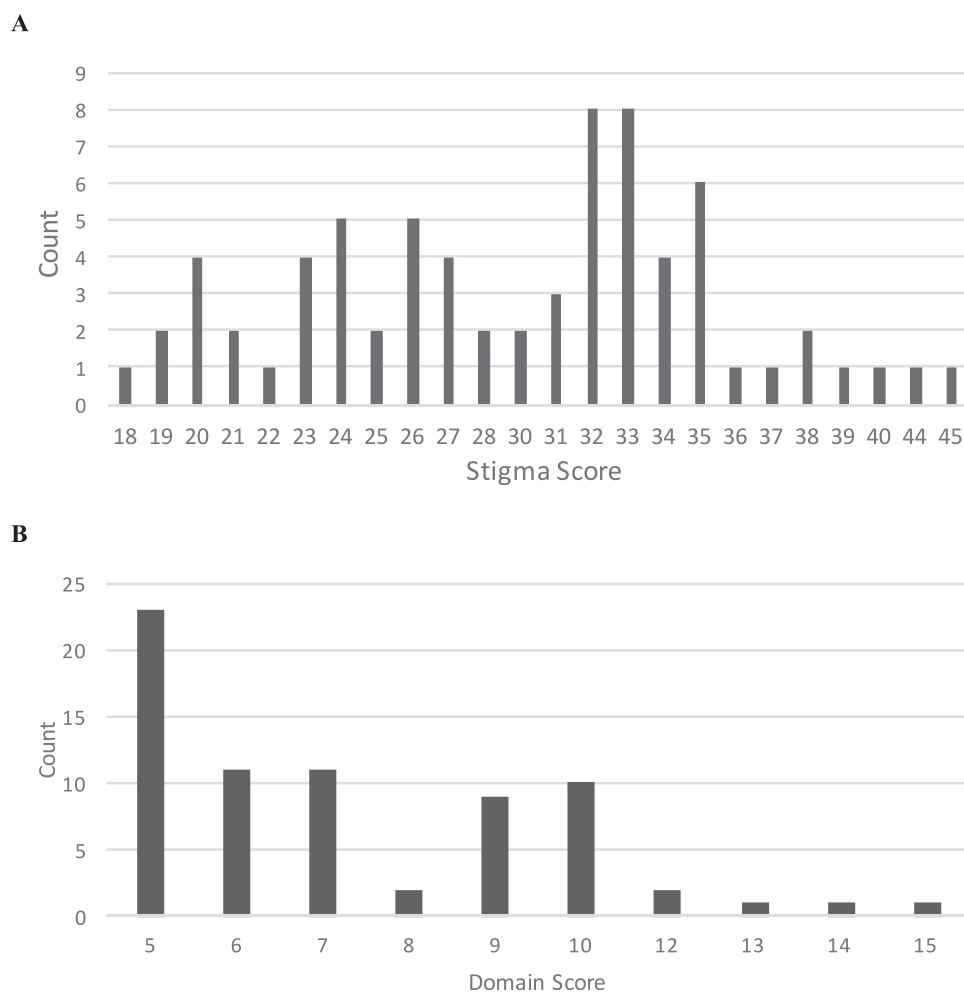
PCPs (52%) were women, and 39 (54.9%) were medical residents. The majority of PCPs (84.5%) stated that either they or someone they know was diagnosed with or in treatment for a mental illness. Nineteen PCPs (27%) reported they did not know anyone, including themselves, diagnosed or undergoing treatment for a mental illness. Most providers rated their confidence in assessing a PHQ-9 score as excellent or above average, approximately 60% of PCPs said they frequently diagnosed depression, and 2 thirds stated they frequently treat depression. Mean stigma scores were 29.5 (SD = 6.18, range 18 to 45). Histograms for the overall and social distance stigma scores (the domain with the most atypical distribution trending toward *less stigma*) are displayed in the Figure.

## Provider Characteristics Associated With Different Degrees of Stigma

When comparing provider characteristics, significantly higher stigma scores were observed in men versus women (31.8 vs 27.4, respectively;  $P = .0021$ ) and in resident physicians versus nonresident physicians (31.3 vs 27.2, respectively;  $P = .0045$ ). Significant differences were also present between age groups ( $P = .025$ ). Younger providers (39 and younger) were more likely to have higher stigma scores compared with older providers (40 and older). Years in practice were not analyzed due to each group having fewer than 5 respondents. Providers who reported they or someone they know was diagnosed with a mental illness had less stigma (33.4 vs 29.0, respectively;  $P = .033$ ). This trend was also observed for providers who reported they or someone they know was in treatment for a mental illness; however, statistical significance was not reached (32.0 vs 28.8, respectively;  $P > .05$ ). Table 2 summarizes provider characteristics associated with different degrees of stigma.

## Provider Characteristics Associated With Diagnosing or Treating Depression

Significant differences in stigma scores were present between PCPs who reported their PHQ-9 assessment confidence as *below average* compared with *excellent* (34.86 vs 27.75, respectively;  $P = .016$ ). Providers who stated they rarely or occasionally treated depression were more likely to have higher stigma than those who frequently treated depression (33.0 vs 27.8, respectively;  $P < .001$ ). Finally, female providers reported treating depression more frequently compared with males (odds ratio 5.16; 95% confidence interval, 1.72 to 15.56;  $P = .0035$ ). There were no clinically significant differences between providers who stated they either rarely or occasionally diagnosed depression versus providers who frequently diagnosed depression (30.9 vs 28.6, respectively).



**FIGURE:** (A) Total stigma score distribution; (B) stigma domain: *social distance* score distribution

## Discussion

In our study of 2 large US academic primary care clinics, a range of stigma was present with a higher degree of stigma present among PCPs who were male, medical residents, younger, and without personal exposure to mental illness. To our knowledge, this is the first published evaluation of stigma among PCPs in the United States. Our mean stigma score of 29.5 using an OMS-HC specific for depression was lower than in studies outside the United States that used the unmodified OMS-HC (ie, evaluated stigma for all mental illness). This may be explained by cultural differences or the generalization that depression likely has less stigma than other mental illnesses, such as bipolar disorder and schizophrenia spectrum disorders.<sup>16,21</sup> Furthermore, we found the *social distance* domain had the most atypical distribution favoring lower scores. We hypothesize this is likely due to MDD being one of the most common mental illnesses. It should be noted that there are no specified cutoffs to categorize stigma scores into groups, such as *low*, *medium*, and *high stigma* with the OMS-HC.

With 1-year prevalence rates for all mental illness approaching 20%,<sup>29</sup> we were surprised that nearly 15% of PCPs stated they did not know anyone with a mental illness. PCPs who knew someone with a mental illness were more likely to have less stigma, which correlates with other studies evaluating this relationship.<sup>16,21,22</sup> This could be explained by a lack of awareness of the signs and symptoms of depression as previous studies demonstrate can happen frequently in the primary care setting.<sup>5</sup> This could translate into being unaware that those around you have depression and a general misunderstanding of mental illnesses. In the end, the lack of awareness could result in higher stigma in these PCPs who do not know someone with a mental illness although other explanations are possible.

We also observed that female providers report treating depression more frequently than male providers. Given that, in the general population, women have a 70% higher lifetime incidence than men,<sup>1</sup> female PCPs may also have a higher incidence of depression than male counterparts, which may influence them to be more likely to treat depression out of greater awareness. Gender ratios of PCP

**TABLE 2: Stigma scores by primary care providers (PCP) characteristics**

Characteristic	Mean Stigma Score (95% confidence interval)	P Value
Male	31.8 (29.8, 33.8)	.0021
Female	27.5 (25.7, 29.3)	
Attending physicians and midlevel providers	27.2 (25.2, 29.2)	.0048
Medical resident	31.3 (29.5, 33.2)	
Age, y		.025
25 to 29	30.5 (27.9, 33.1)	
30 to 39	31.9 (29.9, 34.0)	
40 to 49	26.9 (23.3, 30.6)	
50 and older	26.6 (23.7, 29.6)	
Do you or someone you know have a mental illness?		.033
Yes	29.0 (27.5, 30.5)	
No	33.4 (30.1, 36.7)	
Are you or someone you know in treatment for a mental illness?		>.05
Yes	28.8 (27.2, 30.4)	
No	32.0 (29.1, 35.0)	
PHQ-9 assessment confidence		.02
Below average	34.9 (30.3, 39.5)	
Above average	29.8 (27.2, 32.4)	
Excellent	27.8 (25.6, 30.0)	
Frequency of diagnosing depression		.13
Rarely/occasionally	30.9 (28.4, 33.4)	
Frequently	28.6 (26.9, 30.3)	
Frequency of treating depression		<.001
Rarely/occasionally	33.0 (30.3, 35.7)	
Frequently	27.8 (26.3, 29.3)	

PHQ-9 = Patient Health Questionnaire.

patient panels were not evaluated to determine if female PCPs had more female patients, which could also influence this association.

Increased stigma was seen with younger providers and medical residents. Given the increasing amount of recent public attention to mental health in general, this finding was surprising; however, it was concordant with original validation testing of the OMS-HC.<sup>6</sup> These findings could be explained in part by limited clinical experience, fewer therapeutic alliances, or depersonalization of health care given the increase in electronic health record utilization.<sup>30</sup> We did not record the specific year in residency training,

which may have given insight into the etiology and shown differences based on clinical experience.

The findings of this study provide some unique insights into stigma among PCPs; however, the results do have some limitations. Although our response rate of more than 60% is high, we only have findings from 71 providers, and the results may not be generalizable to all PCPs. It is possible that estimates of stigma in the general PCP population may be higher as those with higher stigma may be less likely to respond to a survey on the topic. Given our study was limited to PCPs in 2 academic clinics, the results may also not be generalizable to other settings, such as rural or community settings. Further, there were few APPs represented in our study, making generalization to this population difficult. We are also unable to evaluate the impact of selection bias by comparing those providers who chose to respond or not to the questionnaire given that we do not have information available for providers who did not complete it. Another potential limitation of our study is that we modified validated tool language from *mental illness* to *depression*, which could impact the survey's overall validity; however, because our study found similar scores to other studies,<sup>16,21</sup> we do not believe the results were greatly impacted. Last, because personal stigma can be a sensitive subject, it is possible some providers did not feel comfortable answering honestly for fear of judgment or scrutiny despite anonymity.

## Conclusion

Overall, a range of stigma among PCPs in 2 large academic, internal medicine clinics was present, and the degree of stigma varied by PCP characteristics. Male PCPs, medical residents, younger PCPs, and those without personal exposure to mental illness reported higher depression-related stigma than their counterparts. Additionally, female providers reported treating depression more frequently than males. Future studies with large sample sizes are needed to evaluate PCP stigma across heterogeneous care settings, better understand provider variables associated with increased stigma, and determine to what extent provider stigma impacts clinical care and outcomes for patients with depression. This information could help direct resources allocated for stigma training and expand systems-based interventions for depression treatment.

## Acknowledgments

This study was funded by the Defining the Future grant through the College of Psychiatric and Neurologic Pharmacists Foundation. We are grateful to Leah Behrmann, Stephanie Gedney, and Isabella Dai for their work on this project as students. This study was supported by NIH/NCRR Colorado CTSI grant number UL1 RR025780. Its contents are the authors' sole responsibility and do not necessarily represent official NIH views.

## References

1. Kessler RC, Berglund P, Demler O, Jin R, Koretz D, Merikangas KR, et al. The epidemiology of major depressive disorder: results from the National Comorbidity Survey Replication (NCS-R). *JAMA*. 2003;289(23):3095-105. DOI: [10.1001/jama.289.23.3095](https://doi.org/10.1001/jama.289.23.3095). PubMed PMID: [12813115](https://pubmed.ncbi.nlm.nih.gov/12813115/).
2. Substance Abuse and Mental Health Services Administration. Results from the 2013 national survey on drug use and health: mental health findings. Rockville (MD): Department of Health and Human Services; 2013.
3. World Health Organization. The global burden of disease: 2004 update. Geneva: WHO Press; 2008.
4. Greenberg PE, Fournier A-A, Sisitsky T, Pike CT, Kessler RC. The economic burden of adults with major depressive disorder in the United States (2005 and 2010). *J Clin Psychiatry*. 2015;76(2):155-62. DOI: [10.4088/JCP.14m09298](https://doi.org/10.4088/JCP.14m09298). PubMed PMID: [25742202](https://pubmed.ncbi.nlm.nih.gov/25742202/).
5. Ani C, Bazargan M, Hindman D, Bell D, Farooq MA, Akhanjee L, et al. Depression symptomatology and diagnosis: discordance between patients and physicians in primary care settings. *BMC Fam Pract*. 2008;9:1. DOI: [10.1186/1471-2296-9-1](https://doi.org/10.1186/1471-2296-9-1). PubMed PMID: [18173835](https://pubmed.ncbi.nlm.nih.gov/18173835/); PubMed Central PMCID: [PMC2254627](https://pubmed.ncbi.nlm.nih.gov/PMC2254627/).
6. Kassam A, Papish A, Modgill G, Patten S. The development and psychometric properties of a new scale to measure mental illness related stigma by health care providers: the Opening Minds Scale for Health Care Providers (OMS-HC). *BMC Psychiatry*. 2012;12:62. DOI: [10.1186/1471-244X-12-62](https://doi.org/10.1186/1471-244X-12-62). PubMed PMID: [22694771](https://pubmed.ncbi.nlm.nih.gov/22694771/); PubMed Central PMCID: [PMC3681304](https://pubmed.ncbi.nlm.nih.gov/PMC3681304/).
7. Egede LE, Nietert PJ, Zheng D. Depression and all-cause and coronary heart disease mortality among adults with and without diabetes. *Diabetes Care*. 2005;28(6):1339-45. DOI: [10.2337/diacare.28.6.1339](https://doi.org/10.2337/diacare.28.6.1339). PubMed PMID: [15920049](https://pubmed.ncbi.nlm.nih.gov/15920049/).
8. Barth J, Schumacher M, Herrmann-Lingen C. Depression as a risk factor for mortality in patients with coronary heart disease: a meta-analysis. *Psychosom Med*. 2004;66(6):802-13. DOI: [10.1097/01.psy.0000146332.53619.b2](https://doi.org/10.1097/01.psy.0000146332.53619.b2). PubMed PMID: [15564343](https://pubmed.ncbi.nlm.nih.gov/15564343/).
9. Reavley NJ, Mackinnon AJ, Morgan AJ, Jorm AF. Stigmatising attitudes towards people with mental disorders: a comparison of Australian health professionals with the general community. *Aust N Z J Psychiatry*. 2014;48(5):433-41. DOI: [10.1177/0004867413500351](https://doi.org/10.1177/0004867413500351). PubMed PMID: [23943633](https://pubmed.ncbi.nlm.nih.gov/23943633/).
10. Wang PS, Lane M, Olfson M, Pincus HA, Wells KB, Kessler RC. Twelve-month use of mental health services in the United States: results from the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 2005;62(6):629-40. DOI: [10.1001/archpsyc.62.6.629](https://doi.org/10.1001/archpsyc.62.6.629). PubMed PMID: [15939840](https://pubmed.ncbi.nlm.nih.gov/15939840/).
11. Kessler RC, Demler O, Frank RG, Olfson M, Pincus HA, Walters EE, et al. Prevalence and treatment of mental disorders, 1990 to 2003. *N Engl J Med*. 2005;352(24):2515-23. DOI: [10.1056/NEJMsao43266](https://doi.org/10.1056/NEJMsao43266). PubMed PMID: [15958807](https://pubmed.ncbi.nlm.nih.gov/15958807/); PubMed Central PMCID: [PMC2847367](https://pubmed.ncbi.nlm.nih.gov/PMC2847367/).
12. Mental disorders in general medical practice an opportunity to add value to healthcare. *Behav Healthc Tomorrow*. 1996;5(5):55-62, 72. PubMed PMID: [10161577](https://pubmed.ncbi.nlm.nih.gov/10161577/).
13. Grazier KL, Eselius LL. Mental health carve-outs: effects and implications. *Med Care Res Rev*. 1999;56 Suppl 2:37-59. PubMed PMID: [10327823](https://pubmed.ncbi.nlm.nih.gov/10327823/).
14. Ridgely MS, Goldman HH, Willenbring M. Barriers to the care of persons with dual diagnoses: organizational and financing issues. *Schizophr Bull*. 1990;16(1):123-32. DOI: [10.1093/schbul/16.1.123](https://doi.org/10.1093/schbul/16.1.123). PubMed PMID: [2185535](https://pubmed.ncbi.nlm.nih.gov/2185535/).
15. Ray WA, Daugherty JR, Meador KG. Effect of a mental health "carve-out" program on the continuity of antipsychotic therapy. *N Engl J Med*. 2003;348(19):1885-94. DOI: [10.1056/NEJMsao20584](https://doi.org/10.1056/NEJMsao20584). PubMed PMID: [12736282](https://pubmed.ncbi.nlm.nih.gov/12736282/).
16. Lam TP, Lam KF, Lam EWW, Ku YS. Attitudes of primary care physicians towards patients with mental illness in Hong Kong. *Asia Pac Psychiatry*. 2013;5(1):E19-28. DOI: [10.1111/j.1758-5872.2012.00208.x](https://doi.org/10.1111/j.1758-5872.2012.00208.x). PubMed PMID: [23857792](https://pubmed.ncbi.nlm.nih.gov/23857792/).
17. Merriam-Webster.com [Internet]. Stigma [cited 2018 May 8]. Available from: <https://www.merriam-webster.com/dictionary/stigma>
18. van Boekel LC, Brouwers EP, van Weeghel J, Garretsen HF. Comparing stigmatising attitudes towards people with substance use disorders between the general public, GPs, mental health and addiction specialists and clients. *Int J Soc Psychiatry*. 2015;61(6):539-49. DOI: [10.1177/0020764014562051](https://doi.org/10.1177/0020764014562051). PubMed PMID: [25500945](https://pubmed.ncbi.nlm.nih.gov/25500945/).
19. Schulze B. Stigma and mental health professionals: a review of the evidence on an intricate relationship. *Int Rev Psychiatry*. 2007;19(2):137-55. DOI: [10.1080/09540260701278929](https://doi.org/10.1080/09540260701278929). PubMed PMID: [17464792](https://pubmed.ncbi.nlm.nih.gov/17464792/).
20. Jorm AF, Oh E. Desire for social distance from people with mental disorders. *Aust N Z J Psychiatry*. 2009;43(3):183-200. DOI: [10.1080/00048670802653349](https://doi.org/10.1080/00048670802653349). PubMed PMID: [19221907](https://pubmed.ncbi.nlm.nih.gov/19221907/).
21. Nordt C, Rössler W, Lauber C. Attitudes of mental health professionals toward people with schizophrenia and major depression. *Schizophr Bull*. 2006;32(4):709-14. DOI: [10.1093/schbul/sbj065](https://doi.org/10.1093/schbul/sbj065). PubMed PMID: [16510695](https://pubmed.ncbi.nlm.nih.gov/16510695/).
22. Modgill G, Patten SB, Knaak S, Kassam A, Szeto ACH. Opening Minds Stigma Scale for Health Care Providers (OMS-HC): examination of psychometric properties and responsiveness. *BMC Psychiatry*. 2014;14:120. DOI: [10.1186/1471-244X-14-120](https://doi.org/10.1186/1471-244X-14-120). PubMed PMID: [24758158](https://pubmed.ncbi.nlm.nih.gov/24758158/); PubMed Central PMCID: [PMC4024210](https://pubmed.ncbi.nlm.nih.gov/PMC4024210/).
23. Kroenke K, Spitzer RL, Williams JBW. The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med*. 2001;16(9):606-13. DOI: [10.1046/j.1525-1497.2001.016009606.x](https://doi.org/10.1046/j.1525-1497.2001.016009606.x). PubMed PMID: [11556941](https://pubmed.ncbi.nlm.nih.gov/11556941/).
24. Löwe B, Kroenke K, Herzog W, Gräfe K. Measuring depression outcome with a brief self-report instrument: sensitivity to change of the Patient Health Questionnaire (PHQ-9). *J Affect Disord*. 2004;81(1):61-6. DOI: [10.1016/S0165-0327\(03\)00198-8](https://doi.org/10.1016/S0165-0327(03)00198-8). PubMed PMID: [15183601](https://pubmed.ncbi.nlm.nih.gov/15183601/).
25. Lowe B, Unützer J, Callahan CM, Perkins AJ, Kroenke K. Monitoring depression treatment outcomes with the Patient Health Questionnaire-9. *Med Care*. 2004;42(12):1194-201. DOI: [10.1097/00005650-200412000-00006](https://doi.org/10.1097/00005650-200412000-00006). PubMed PMID: [15550799](https://pubmed.ncbi.nlm.nih.gov/15550799/).
26. American Academy of Family Physicians [Internet]. Screening your adult patients for depression [cited 2018 Sep 11]. Available from: <https://www.aafp.org/fpm/2016/0300/p16.html>
27. Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap)—a metadata-driven methodology and workflow process for providing translational research informatics support. *J Biomed Inform*. 2009;42(2):377-81. DOI: [10.1016/j.jbi.2008.08.010](https://doi.org/10.1016/j.jbi.2008.08.010). PubMed PMID: [18929686](https://pubmed.ncbi.nlm.nih.gov/18929686/).
28. Beaulieu T, Patten S, Knaak S, Weirnerman R, Campbell H, Lauria-Horner B. Impact of skill-based approaches in reducing stigma in primary care physicians: results from a double-blind, parallel-cluster, randomized controlled trial. *Can J Psychiatry*. 2017;62(5):327-35. DOI: [10.1177/0706743716686919](https://doi.org/10.1177/0706743716686919). PubMed PMID: [28095259](https://pubmed.ncbi.nlm.nih.gov/28095259/); PubMed Central PMCID: [PMC5459227](https://pubmed.ncbi.nlm.nih.gov/PMC5459227/).
29. National Alliance on Mental Illness [Internet]. Mental health by the numbers [cited 2018 Sep 11]. Available from: <https://www.nami.org/learn-more/mental-health-by-the-numbers>
30. Rouf E, Whittle J, Lu N, Schwartz MD. Computers in the exam room: differences in physician-patient interaction may be due to physician experience. *J Gen Intern Med*. 2007;22(1):43-8. DOI: [10.1007/s11606-007-0112-9](https://doi.org/10.1007/s11606-007-0112-9). PubMed PMID: [17351838](https://pubmed.ncbi.nlm.nih.gov/17351838/).