Table DS1. Medline Search Strategy

1. Stereotyping/ or Social Stigma/ or Prejudice/ or Attitude/

2. stigma.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

3. stigma*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

4. stereotyp*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

5. Social Perception/

6. Interpersonal Relations/

7. Public Opinion/

8. "Attitude of Health Personnel"/

9. Social Distance/

10. "Rejection (Psychology)"/

11. Human Rights/

12. Civil Rights/

13. Social Justice/

14. public opinion.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

15. social distance.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

16. human rights.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

17. civil rights.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

18. social justice.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

19. empower*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

20. "Discrimination (Psychology)"/

21. discrimination.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

22. marginali*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword

heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

23. injustice.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

24. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23

25. Mental Health/

26. Mental Disorders/

27. Mentally Ill Persons/

28. Somatoform Disorders/

29. Depression/ or Depression, Postpartum/

30. common mental disorders.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

31. Depressive Disorder/

32. Depressive Disorder, Major/

33. Psychotic Disorders/ or Affective Disorders, Psychotic/

34. Neurotic Disorders/ or Self-Injurious Behavior/ or Anxiety/

35. Anxiety Disorders/

36. Schizophrenia, Paranoid/ or Schizophrenia/

37. Bipolar Disorder/

38. Mood Disorders/

39. Obsessive-Compulsive Disorder/

40. Personality Disorders/

41. Eating Disorders/

42. Anorexia Nervosa/ or Anorexia/

43. Bulimia Nervosa/ or Bulimia/

44. Mental Health Services/

45. mental health.mp.

46. mental illness.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

47. psychotic.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

48. psychosis.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

49. schizo*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

50. bipolar disorder.mp. [mp=title, abstract, original title, name of substance word, subject heading word,

keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

51. manic depression.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

52. OCD.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

53. obsessive compulsive disorder.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

54. anorex*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

55. bulimi*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

56. 25 or 26 or 27 or 28 or 29 or 30 or 31 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55

57. randomized controlled trial.pt.

58. controlled clinical trial.pt.

59. evaluation studies.pt.

60. Prospective Studies/

61. Follow-Up Studies/

62. Social Marketing/

63. National Health Programs/

64. Government Programs/

65. Program Development/

66. Mass Media/

67. Learning/ or Multimedia/ or Teaching/

68. Internet/

69. Journalism/

70. Video Games/ or Video-Audio Media/ or Video Recording/

71. Software/

72. Pamphlets/

73. Advertising as Topic/

74. Public Relations/

75. Public Relations/

76. Persuasive Communication/

77. Famous Persons/

78. Health Knowledge, Attitudes, Practice/

79. Awareness/

80. Consumer Advocacy/ or Patient Advocacy/

81. Health Promotion/

82. evaluat*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

83. intervention*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

84. Intervention Studies/

85. Randomized Controlled Trials as Topic/

86. randomi*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

87. follow-up.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

88. pre-post.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

89. time series.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

90. time point.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

91. campaign.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

92. message.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

93. advert*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

94. marketing.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

95. public relation*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

96. program*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

97. newspaper*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

98. magazine*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

99. newsletter*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword

heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

100. broadcast.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

101. radio.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

102. television.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

103. cinema.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

104. DVD.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

105. website.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

106. compact disc.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

107. movie.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

108. film.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

109. trailer.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

110. stigma resilience.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

111. stigma change.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

112. (stigma* adj5 cop*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

113. (stigma* adj5 reduc*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

114. (discrim* adj5 reduc*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

115. (stigma* adj5 challeng*).mp. [mp=title, abstract, original title, name of substance word, subject heading

word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

116. (discrim* adj5 challeng*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

117. (stigma* adj5 combat*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

118. (discrim* adj5 combat*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

119. (stigma* adj5 counter*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

120. (discrim* adj5 counter*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

121. contact.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

122. testimon*.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

123. mental health literacy.mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept, rare disease supplementary concept, unique identifier]

124. 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84 or 85 or 86 or 87 or 88 or 89 or 90 or 91 or 92 or 93 or 94 or 95 or 96 or 97 or 98 or 99 or 100 or 101 or 102 or 103 or 104 or 105 or 106 or 107 or 108 or 109 or 110 or 111 or 112 or 113 or 114 or 115 or 116 or 117 or 118 or 119 or 120 or 121 or 122 or 123

125. 24 and 56 and 124

126. 124 and "Humans".sa_suba.

127. 125 and 1980:2013.(sa_year).

128. 126 and 1990:2013.(sa_year).

129. 127 and 2000:2013.(sa_year).

Table DS . References for included studies

Aho-Mustonen K, Tiihonen J, Repo-Tiihonen E, Ryynanen O-P, Miettinen R, Raty H. Group psychoeducation for long-term offender patients with schizophrenia: An exploratory randomised controlled trial. Criminal Behaviour and Mental Health. 2011 Jul;21(3):163-76.

Altindag A, Yanik M, Ucok A, Alptekin K, Ozkan M. Effects of an antistigma program on medical students' attitudes towards people with schizophrenia. Psychiatry & Clinical Neurosciences. 2006;60(3):283-8.

Anderson K, Austin JC. Effects of a documentary film on public stigma related to mental illness among genetic counselors. Journal of Genetic Counseling. 2012 Aug;21(4):573-81.

Armstrong G, Kermode M, Raja S, Suja S, Chandra P, Jorm AF. A mental health training program for community health workers in India: Impact on knowledge and attitudes. Int J Ment Health Syst. 2011 Aug;5:17.

Bayar MR, Poyraz BC, Aksoy-Poyraz C, Arikan MK. Reducing mental illness stigma in mental health professionals using a web-based approach. Israel Journal of Psychiatry & Related Sciences. 2009;46(3):226-30.

Buizza C, Pioli R, Rossi G, Poli R, Spinogatti F, Agrimi E. Measuring of the effectiveness of an educational intervention in stigma reduction: A pilot study in Brescia and Cremona towns. Psichiatria e Psicoterapia. 2007 Sep;26(3):247-58.

Campbell M, Shryane N, Byrne R, Morrison AP. A mental health promotion approach to reducing discrimination about psychosis in teenagers. Psychosis: Psychological, Social and Integrative Approaches. 2011 Feb;3(1):41-51.

Castro CA, Adler AB, McGurk D, Bliese PD. Mental health training with soldiers four months after returning from Iraq: Randomization by platoon. Journal of Traumatic Stress. 2012 Aug;25(4):376-83.

Clement, S., Van, N. A., Kassam, A., Flach, C., Lazarus, A., De, C. M., Mccrone, P., Norman, I. & Thornicroft, G. 2012. Filmed v. live social contact interventions to reduce stigma: randomised controlled trial. Br.J.Psychiatry, 201, 57-64.

Conrad I, Dietrich S, Heider D, Blume A, Angermeyer MC, Riedel-Heller S. "Crazy? So what!": A school programme to promote mental health and reduce stigma-Results of a pilot study. Health Education. 2009;109(4):314-28.

Corker E. HS, Henderson C., Weeks C., Pinfold V., Rose D., Williams P., Flach C., Gill V. & Thornicroft. Experiences of discrimination among people using mental health services in England 2008-11. British Journal of Psychiatry. 2013 2013;202(55):s58-s63.

Crisp A, Gelder M, Goddard E, Meltzer H. Stigmatization of people with mental illnesses: a follow-up study within the Changing Minds campaign of the Royal College of Psychiatrists. World Psychiatry. 2005 Jun;4(2):106-13.

Dietrich S, Mergl R, Freudenberg P, Althaus D, Hegerl U. Impact of a campaign on the public's attitudes towards depression. Health Education Research. 2010;25(1):135-50.

Domino G. Impact of the film'One flew over the cuckoo's nest' on attitudes towards mental illness. Psychological Reports. 1983 1983/08/01;53(1):179-82.

Economou M, Louki E, Peppou L, Gramandani C, Yotis L, Stefanis C. Fighting psychiatric stigma in the classroom: The impact of an educational intervention on secondary school students' attitudes to schizophrenia. International Journal of Social Psychiatry. 2012 Sep;58(5):544-51.

Essler V, Arthur A, Stickley T. Using a school-based intervention to challenge stigmatizing attitudes and promote mental health in teenagers. Journal of Mental Health. 2006;15(2):243-50.

Esters IG, Cooker PG, Ittenbach RF. Effects of a unit of instruction in mental health on rural adolescents' conceptions of mental illness and attitudes about seeking help. Adolescence. 1998;33(130):469-76.

Evans-Lacko S, Henderson C, Thornicroft G, McCrone P. Economic evaluation of the anti-stigma social marketing campaign in England 2009-2011. Br J Psychiatry Suppl. 2013 Apr;55:s95-101.

Evans-Lacko S, Malcolm E, West K, Rose D, London J, Rusch N, et al. Influence of Time to Change's social marketing interventions on stigma in England 2009-2011. Br J Psychiatry Suppl. 2013 Apr;55:s77-88.

Faigin DA, Stein CH. Comparing the effects of live and video-taped theatrical performance in decreasing stigmatization of people with serious mental illness. Journal of Mental Health. 2008;17(6):594-606.

Friedrich B, Evans-Lacko S, London J, Rhydderch D, Henderson C, Thornicroft G. Anti-stigma training for medical students: the Education Not Discrimination project. Br J Psychiatry Suppl. 2013 Apr;55:s89-94.

Fung KMT, Tsang HWH, Cheung W-m. Randomized controlled trial of the self-stigma reduction program among individuals with schizophrenia. Psychiatry Research. 2011 Sep 30;189(2):208-14.

Gaebel W, Zaske H, Baumann AE, Klosterkotter J, Maier W, Decker P, et al. Evaluation of the German WPA "Program against stigma and discrimination because of schizophrenia--Open the Doors": Results from representative telephone surveys before and after three years of antistigma interventions. Schizophrenia Research. 2008 Jan;98(1-3):184-93.

Garcia Silberman S. Mental health and the movies: An experimental study about attitude change. Revista Mexicana de Psicologia. 1993 Jan-Jun;10(1):37-48.

Ghorbani NR, Heidari RN. Effects of information and communication technology on youth's health knowledge. Asia-Pacific Journal of Public Health. 2011 May;23(3):363-8.

Gonzales JM, H.E.A. T, K.R. K. Effects of psychoeducational interventions on opinions of mental illness, attitudes towards help seeking, and expectations about psychotherapy in college students. Journal of College Student Development. 2002;43:51-63.

Gould M, Greenberg N, Hetherton J. Stigma and the military: evaluation of a PTSD psychoeducational program. JTrauma Stress. [10.1002/jts.20233 doi]. 2007;20(4):505-15.

Graham AL, Julian J, Meadows G. Improving responses to depression and related disorders: Evaluation of a innovative, general, mental health care workers training program. Int J Ment Health Syst. 2010 Sep;4:25.

Grausgruber A, Schony W, Grausgruber-Berner R, Koren G, Apor BF, Wancata J, et al. ["Schizophrenia has many faces" - evaluation of the Austrian Anti-Stigma-Campaign 2000-2002]. Psychiatrische Praxis. [English Abstract]. 2009 Oct;36(7):327-33.

Griffiths, K. M., Carron-Arthur, B., Parsons, A. & Reid, R. 2014. Effectiveness of programs for reducing the stigma associated with mental disorders. A meta-analysis of randomized controlled trials. World Psychiatry : , 13, 161-75.

Gulliver A, Griffiths KM, Christensen H, Mackinnon A, Calear AL, Parsons A, et al. Internet-based interventions to promote mental health help-seeking in elite athletes: An exploratory randomized controlled trial. Journal of Medical Internet Research. 2012 May-Jun;14(3):120-37.

Gumley A, Karatzias A, Power K, Reilly J, McNay L, O'Grady M. Early intervention for relapse in schizophrenia: Impact of cognitive behavioural therapy on negative beliefs about psychosis and self-esteem. British Journal of Clinical Psychology. 2006 Jun;45(2):247-60.

Gutierrez-Maldonado J, Caqueo-Urizar A, Ferrer-Garcia M. Effects of a psychoeducational intervention program on the attitudes and health perceptions of relatives of patients with schizophrenia. Social Psychiatry and Psychiatric Epidemiology. 2009 May;44(5):343-8.

Hao Z-h, Liang B-y. Effect of group guidance on intention of seeking professional psychological help among university students. Chinese Journal of Clinical Psychology. 2011 Oct;19(5):699-702.

Henderson C, Corker E, Lewis-Holmes E, Hamilton S, Flach C, Rose D, et al. England's time to change antistigma campaign: one-year outcomes of service user-rated experiences of discrimination. Psychiatric Services. . 2012;63(5):451-7.

Henderson C, Williams P, Little K, Thornicroft G. Mental health problems in the workplace: changes in employers' knowledge, attitudes and practices in England 2006-2010. Br J Psychiatry Suppl. 2013 Apr;55:s70-6.

Irvine BA, Billow MB, Eberhage MG, Seeley JR, McMahon E, Bourgeois M. Mental illness training for licensed staff in long-term care. Issues in Mental Health Nursing. 2012 Mar;33(3):181-94.

Jorm AF, Christensen H, Griffiths KM. Changes in depression awareness and attitudes in Australia: The impact of beyondblue: The national depression initiative. Australian and New Zealand Journal of Psychiatry. 2006 Jan;40(1):42-6.

Jorm AF, Christensen H, Griffiths KM. The impact of beyondblue: the national depression initiative on the Australian public's recognition of depression and beliefs about treatments. Australian and New Zealand Journal of Psychiatry. 2005;39(4):248-54.

Jorm AF, Kitchener BA, Fischer J-A, Cvetkovski S. Mental health first aid training by e-learning: A randomized controlled trial. Australian and New Zealand Journal of Psychiatry. 2010 Dec;44(12):1072-81.

Jorm AF, Kitchener BA, O'Kearney R, Dear KB. Mental health first aid training of the public in a rural area: A cluster randomized trial. BMC Psychiatry. 2004 Oct;4:33.

Jorm AF, Kitchener BA, Sawyer MG, Scales H, Cvetkovst S. Mental health first aid training for high school teachers: a cluster randomised trial. BMC Psychiatry 2010 10:51

Kelly CM, Mithen JM, Fischer JA, Kitchener BA, Jorm AF, Lowe A, et al. Youth mental health first aid: a description of the program and an initial evaluation. Int J Ment Health Syst. 2011 Jan;5.

Kerby J, Calton T, Dimambro B, Flood C, Glazebrrok C. Anti-stigma films and medical students' attitudes towards mental illness and psychiatry: randomised controlled trial. Psychiatric Bulletin. 2008;32:345-9.

Kitchener BA, Jorm AF. Mental health first aid training for the public: evaluation of effects on knowledge, attitudes and helping behavior. BMCPsychiatry. 2002;2(1):10.

Kitchener BA, Jorm AF. Mental health first aid training in a workplace setting: A randomized controlled trial. BMC Psychiatry. 2004 Aug;4:23.

Knight MT, Wykes T, Hayward P. Group Treatment of Perceived Stigma and Self-Esteem in Schizophrenia: A Waiting List Trial of Efficacy. Behavioural and Cognitive Psychotherapy. 2006 Jul;34(3):305-18.

Krawitz R. Borderline personality disorder: attitudinal change following training. Australian & New Zealand Journal of Psychiatry. 2004;38(7):554-9.

Link BG, Struening EL, Neese-Todd S, Asmussen S, Phelan JC. On Describing and Seeking to Change the Experience of Stigma. [References]. Psychiatric Rehabilitation Skills. 2002;6(2):231.

Luty J, Rao H, Arokiadass SMR, Easow JM, Sarkhel A. The repentant sinner: Methods to reduce stigmatised attitudes towards mental illness.

Psychiatric Bulletin. 2008 Sep;32(9):327-32.

Masuda A, Hayes SC, Lillis J, Bunting K, Herbst SA, Fletcher LB. The relation between psychological flexibility and mental health stigma in Acceptance and Commitment Therapy: A preliminary process investigation. Behavior and Social Issues. 2009 Spr-Sum;18(1):1-16.

Mehta N, Kassam A, Leese M, Butler G, Thornicroft G. Public attitudes towards people with mental illness in England and Scotland, 1994-2003. Br J Psychiatry. [Research Support, Non-U.S. Gov't]. 2009 Mar;194(3):278-84.

Naylor PB, Cowie HA, Walters SJ, Talamelli L, Dawkins J. Impact of a mental health teaching programme on adolescents. British Journal of Psychiatry. 2009 Apr;194(4):365-70.

Ng P, Chan KF. Attitudes towards people with mental illness. Effects of a training program for secondary school students. International journal of adolescent medicine and health. 2002;14(3):215-24.

O'Reilly CL, Bell JS, Kelly PJ, Chen TF. Impact of mental health first aid training on pharmacy students' knowledge, attitudes and self-reported behaviours: a controlled trial. Australia and New Zealand Journal of Psychiatry 2011 45: 549-557

O'Kearney R, Gibson M, Christensen H, Griffiths KM. Effects of a cognitive-behavioural internet program on depression, vulnerability to depression and stigma in adolescent males: A school-based controlled trial. Cognitive Behaviour Therapy. 2006;35(1):43-54.

O'Kearney R, Kang K, Christensen H, Griffiths K. A controlled trial of a school-based Internet program for reducing depressive symptoms in adolescent girls. Depression and Anxiety. 2009;26(1):65-72.

O'Reilly CL, Bell JS, Chen TF. Consumer-led Mental Health Education for Pharmacy Students. American Journal of Pharmaceutical Education. 2010;74(9).

Patterson P, Whittington R, Bogg J. Testing the effectiveness of an educational intervention aimed at changing attitudes to self-harm. Journal of Psychiatric & Mental Health Nursing. 2007;14(1):100-5.

Paykel ES, Hart D, Priest RG. Changes in public attitudes to depression during the Defeat Depression Campaign. Br J Psychiatry. 1998;173:519-22.

Pejovic-Milovancevic M, Lecic-Tosevski D, Tenjovic L, Popovic-Deusic S, Draganic-Gajic S. Changing attitudes of high school students towards peers with mental health problems. PsychiatrDanub. 2009;21(2):213-9.

Pierce D, Liaw S-T, Dobell J, Anderson R. Australian rural football club leaders as mental health advocates: An investigation of the impact of the Coach the Coach project. Int J Ment Health Syst. 2010 May;4:10.

Pinfold V, Huxley P, Thornicroft G, Farmer P, Toulmin H, Graham T. Reducing psychiatric stigma and discrimination--evaluating an educational intervention with the police force in England. Social Psychiatry and Psychiatric Epidemiology. 2003;38(6):337-44.

Pinfold V, Toulmin H, Thornicroft G, Huxley P, Farmer P, Graham T. Reducing psychiatric stigma and discrimination: evaluation of educational interventions in UK secondary schools. BrJPsychiatry. 2003;182:342-6.

Pinto-Foltz MD, Logsdon MC, Myers JA. Feasibility, acceptability, and initial efficacy of a knowledge-contact program to reduce mental illness stigma and improve mental health literacy in adolescents. Social Science and Medicine. [S0277-9536(11)00242-5 pii ;10.1016/j.socscimed.2011.04.006 doi]. 2011;72(12):2011-9.

Premalatha Chinnayya H, Chandrashekar CR, Moily S, Puttamma, Raghuram A, Subramanya KR, et al. Training Primary Care Health Workers in Mental Health Evaluation of Attitudes towards Mental Illness before and after Training. International Journal of Social Psychiatry. 1990 December 1, 1990;36(4):300-7.

Rahman A, Mubbashar MH, Gater R, Goldberg D. Randomised trial of impact of school mental-health programme in rural Rawalpindi, Pakistan. Lancet. 1998;352(9133):1022-5.

Reavley NJ, Jorm AF. Stigmatising attitudes towards people with mental disorders: Changes in Australia over 8 years. Psychiatry Research. 2012 May;197(3):302-6.

Rong Y, Glozier N, Luscombe GM, Davenport TA, Huang Y, Hickie IB. Improving knowledge and attitudes towards depression: A controlled trial among Chinese medical students. BMC Psychiatry. 2011 Mar;11:36.

Schneider J, Beeley C, Repper J. Campaign appears to influence subjective experience of stigma. Journal of Mental Health. 2011 Feb;20(1):89-97.

Schulze B, Richter-Werling M, Matschinger H, Angermeyer MC. Crazy? So what! Effects of a school project on students' attitudes towards people with schizophrenia. Acta PsychiatrScand. 2003;107(2):142-50.

Seal KH, Abadjian L, McCamish N, Shi Y, Tarasovsky G, Weingardt K. A randomized controlled trial of telephone motivational interviewing to enhance mental health treatment engagement in Iraq and Afghanistan veterans. General Hospital Psychiatry. 2012 Sep;34(5):450-9.

Shandley K, Austin D, Klein B, Kyrios M. An evaluation of 'Reach Out Central': an online gaming program for supporting the mental health of young people. Health Education Research. 2010;25(4):563-74.

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 Jul-Aug;47(4):419-38.

Shi Zhongying,Liu Shaoyan,Nie Leiyan The impact of group psychological interventions on the stigma perceived of patients with depression. Journal of Nurses Training 2012, 27:1213-1216.

Sogaard AJ, Fonnebo V. The Norwegian Mental Health Campaign in 1992. Part II: changes in knowledge and attitudes. Health Education Research. 1995;10(3):267-78.

Treloar AJ. Effectiveness of education programs in changing clinicians' attitudes toward treating borderline personality disorder. Psychiatric Services. 2009;60(8):1128-31.

Ucok A, Soygur H, Atakli C, Kuscu K, Sartorius N, Duman ZC, et al. The impact of antistigma education on the attitudes of general practitioners regarding schizophrenia. Psychiatry and Clinical Neurosciences. 2006 Aug;60(4):439-43.

Ventieri D, Clarke DM, Hay M. The effects of a school-based educational intervention on pre-adolescents' knowledge of and attitudes towards mental illness. Advances in School Mental Health Promotion. 2011 Jul;4(3):5-17.

Worakul P, Thavichachart N, Lueboonthavatchai P. Effects of psycho-educational program on knowledge and attitude upon schizophrenia of schizophrenic patients' caregivers. J Med Assoc Thai. 2007 2007;90(6):1199-204.

Wright A, McGorry PD, Harris MG, Jorm AF, Pennell K. Development and evaluation of a youth mental health community awareness campaign - The Compass Strategy. BMC Public Health. 2006;6(215).

Yamaguchi S, Mino Y. [Effects of an educational intervention to reduce prejudice toward the mentally disabled among high school students]. [Nihon koshu eisei zasshi] Japanese journal of public health. 2007;54(12):839-46.

Yanos PT, Roe D, West ML, Smith SM, Lysaker PH. Group-based treatment for internalized stigma among persons with severe mental illness: Findings from a randomized controlled trial. Psychological Services. 2012 Aug;9(3):248-58.

Table DS3. Medium/long-term effectiveness of interventions to reduce stigma: study characteristics, statistical significance and direction of findings (RCTs,and con

Study	Intervention Scale	Country	HIC or LAMIC[a]	Design[b]	Participant type	Intervention Group (n)	Control Group (n)	Intervention Description	Disorder focused on	Control description
Targeted at the Armed Forces										
Seal 2012	Target population	USA	HIC	RCT	Middle east war veterans screened positive for mental health problems	34	39	Four unscripted 20-30 min telephone sessions of motivational interviewing.	Mental illness	Consisted in providing participants with mental health assessment results and advising about the logistics of treatment referrals, e.g. clinic hours, parking, transportation etc.
Castro 2012	Target population	USA	HIC	RCT	US soldiers	804	841	Mental health training program developed for military personnel across the deployment cycle.	Stress and PTSD	No intervention
Gould 2007	Target population	UK	HIC	Controlled₁	Active service members of the UK Armed Forces	62	62	Training programme which seeks to modify attitudes about PTSD, provide support and education, and identify and refer at risk personnel.	PTSD	No intervention
Targeted at School Students										
Campbell 2011	Target population	England	HIC	RCT	Students (14-15 years)	43	49	Mental health workshop including an interactive educational presentation and a personal testimony of psychotic experiences by a service user researcher.	Mental illness	No intervention
Pinto-Foltz 2011	Target population	USA	HIC	RCT	Female students (13-17 years)	95	61	Narrative story-telling, discussion and a video presentation administered by two trained service users who were in sustained recovery from mental illness.	Mental illness	No intervention
Conrad 2009	Target population	Germany	HIC	Controlled₁	Students (13-18 years)	120	90	Introduction to mental health, discussion about students' perceptions of life and a discussion with other young people with lived experience mental illness.	Mental illness	No intervention
Economou 2012	Target population	Greece	HIC	Controlled₂	Students (13-15 years)	308	308	A two hour session including a discussion of 'myths' regarding schizophrenia, patient narratives with described experiences of stigma and a role-play session.	Schizophrenia	A talk about nutrition and healthy living
Esters 1998	Target population	USA	HIC	Controlled₁	Students enrolled in health classes (13 to 17 years)	20	20	Three day programme including a video and information about sources of help for mental health problems and the reality of associated stigma.	Mental illness	Regularly scheduled classes unrelated to mental health
Naylor 2009	Target population	England	HIC	Controlled₁	Students (14-15 years)	174	242	Six lessons on mental health issues delivered over a six week period.	Mental illness	Different school in which intervention did not occur (inactive)
Ng 2002	Target population	China (Hong Kong)	HIC	Controlled₁	Students (mean age: 14-15 years)	79	90	School based mental health club including a weekly 1h mental health education program, a mental health promotion day, talks and exhibitions, and direct contact with people with mental heath problems.	Mental illness	No intervention
O'Kearney 2006	Target population	Australia	HIC	Controlled₁	Male Students (15-16 years)	35	24	An interactive Internet programme aiming to help people identify, overcome and cope with depression. Skills and knowledge based with information, demonstrations, questionnaires and practice exercises.	Depression	Usual personal development programme scheduled by the school consisting in private study, ad hoc discussion and physical activities with no specific discussion of depression.
O'Kearney 2009	Target population	Australia	HIC	Controlled₁	Female Students (15-16 years)	67	90	An interactive Internet programme aiming to help people identify, overcome and cope with depression. Skills and knowledge based with information, demonstrations, questionnaires and practice exercises.	Depression	School's normal personal development activities about nutrition.

Study	Type	Country	Income	Design	Population	Intervention n	Control n	Intervention	Condition	Control
Schulze 2003	Target population	Germany	HIC	Controlled$_1$	Students (14-18 years)	90	60	A week dedicated to an anti-stigma initiative including discussions of wellbeing, mental illness, responses to low mood and causes of illness, a personal testimony from a young person with schizophrenia and further discussions about schizophrenia and stigma.	Schizophrenia	1 week of a different unrelated project
Ventieri 2011	Target population	Australia	HIC	Controlled$_1$	Students (9-12 years)	69	126	Educational intervention including a general introduction to mental illness, causes and treatments of mental illness and stigma.	Mental illness	Normal classes covering material unrelated to mental illness
Yamaguchi 2007Ω	Target population	Japan	HIC	Controlled$_1$	Students (16-18 years)	99	81	50-min mental health lecture and 50-min patient's talk at class homeroom	Mental illness	No intervention
Buizza 2007 (Brescia)	Target population	Italy	HIC	Uncontrolled	Students (16-19 years)	327	n/a	A 2 hour session including a stigma video, an educational talk about mental health illnesses and stigma, a live testimony by a mental health service user (or family member) and a final discussion.	Mental illness	n/a
Buizza 2007 (Cremona)	Target population	Italy	HIC	Uncontrolled	Students (16-19 years)	380	n/a	A 2 hour session including a stigma video, an educational talk about mental health illnesses and stigma, a live testimony by a mental health service user (or family member) and a final discussion.	Mental illness	n/a
Essler 2006	Target population	England	HIC	Uncontrolled	Students (13-14 years)	104	n/a	Intervention delivered by a theatre company aimed at increasing knowledge about mental health issues, promoting positive attitudes towards people with mental health problems, and increasing awareness of the pupils' own attitudes.	Mental illness	n/a
Pejovic-Milovancevic 2009	Target population	Serbia	LAMIC	Uncontrolled	Students (15 years)	63	n/a	6 week anti-stigma programme including educational sessions covering mental health problems, discrimination, common myths and a weekly interactive workshop where targeted activities were carried out.	Mental illness	n/a
Pinfold 2003	Target population	UK	HIC	Uncontrolled	Students (14-15 years)	472	n/a	Two hour educational intervention including mental health awareness workshops, a video about people living with schizophrenia and discussions about labels and stereotypes or a session co-facilitated by a person who had experiences of living with mental health problems.	Mental illness	n/a
Targeted at University Students										
Gonzales 2002	Target population	USA	HIC	RCT	Psychology University Students	167 for both interventions and controls	167 for both interventions and controls	Educational intervention in which participants read information about mental illness and stigma.	Mental illness	No intervention
Kerby 2008	Target population	UK	HIC	RCT	Medical Students	23	23	2 films produced by mental health service users combining both education and stereotype disconfirmation elements.	Mental illness	25 minute documentary unrelated to mental illness or psychiatry, matched for visual format.
Sharp 2006	Target population	USA	HIC	RCT	University Students	62	61	A 40 minute lecture including information about psychological disorders, the therapeutic process, common misconceptions about psychotherapy and information about local mental health services.	Mental illness	The control group met for 40 minutes and watched an astronomy science video.
Domino 1983	Target population	USA	HIC	Controlled$_1$	University Students	37	19	Watching the film 'One Flew Over The Cuckoo's Nest" in a public cinema.	Mental illness	Not having watched the film

Faigin 2008	Target population	USA	HIC	Controlled$_1$	Psychology University Students	81	123	A play conducted by actors with history of severe mental illness addressing issues such as group-home living, hospitalization, and the impact of social stigmatization. Included a question and answer session.	Mental illness	No intervention
Faigin 2008 (2nd arm)	Target population	USA	HIC	Controlled$_1$	Psychology University Students	99	123	Video group - viewed a recorded version of the play described above.	Mental illness	No intervention
Friedrich 2013	Target population	UK	HIC	Controlled$_1$	Medical Students	1066	386	Short lecture with key facts about stigma and discrimination, testimonies about the experiences of mental health problems and stigma from people with direct experience and role-plays in small groups.	Mental illness	No intervention
O'Reilly 2011	Target population	Australia	HIC	Controlled$_1$	Pharmacy Students	60	212	Mental Health First Aid training course consisting in mental health lectures, supervised weekly placements in the community pharmacy and a tutorial on a mental health topic.	Mental illness	Group who did not attend the course (because they did not wish to and because there was not enough space available on the course)
Altindag 2006	Target population	Turkey	LAMIC	Controlled$_2$	Medical Students	25	35	1 day program with an educational lecture about stigma and schizophrenia, direct contact with a young person with schizophrenia and indirect contact, viewing of the film 'A Beautiful Mind'.	Schizophrenia	1 day program with a 2-h lecture about water metabolism and a viewing of a documentary on the migratory patterns of birds.
Masuda 2009	Target population	USA	HIC	Uncontrolled	Psychology University Students	27	n/a	Acceptance and Commitment Therapy delivered in a 150-minute workshop format. The major goal of the intervention was to humanise the stigmatised individuals.	Mental illness	n/a
O'Reilly 2010	Target population	Australia	HIC	Uncontrolled	Pharmacy Students	258	n/a	Mental health lectures, placements in community pharmacy settings, and a tutorial with trained mental health consumer educators. Students asked the educators about their experience of medication history and counselling.	Mental illness	n/a
Rong 2011	Target population	China	LAMIC	Uncontrolled	Medical Students	103	n/a	The intervention consisted in a 1.5 hour lecture which covered all the basic medical aspects about depression required by the teaching guidelines	Depression	n/a
Rong 2011 (2nd arm)	Target population	China	LAMIC	Uncontrolled	Medical Students	102	n/a	The intervention consisted in a 1.5 hour lecture about depression and 2 weeks of additional activities carried out by students about the experience of mental illness.	Depression	n/a
Targeted at Healthcare Professionals										
Irvine 2012	Target population	USA	HIC	RCT	Licensed care staff in long-term care facilities	84	88	Two Internet courses with video-based behavioural skills and knowledge training.	88	No intervention
Patterson 2007	Target population	UK	HIC	Controlled$_2$	Healthcare professionals	69	22	Educational intervention over 12 days which aimed to improve knowledge of causes of self-harm and reflect on feelings and responses to self-harming behaviour.	Self-harm and suicide	Course unconnected to self harm, on research method
Treloar 2009	Target population	Australia and New Zealand	HIC	Controlled$_2$	Health practitioners with experience of patients with BPD	49	41	Educational programme which covered research and attitudes about borderline personality disorder and discussions of BPD using case studies.	Borderline personality disorder	No intervention
Treloar 2009	Target population	Australia and New	HIC	Controlled	Health practitioners with experience of patients	50	41	A cognitive-behavioural education programme using case studies and a discussion of of clinical guidelines for	Borderline personality disorder	No intervention

Study	Scale	Country	Income	Design	Population	N (int)	N (ctrl)	Intervention	Condition	Comparison
(2nd arm)	Target population	Zealand	HIC	Controlled₂	experience of patients with BPD	50	41	case studies and a discussion of of clinical guidelines for self-harm.	Borderline personality disorder	No intervention
Armstrong 2011	Target population	India	LAMIC	Uncontrolled	Community health workers	70	n/a	Mental health training program aiming to increase recognition of mental disorders, enhance appropriate response and referral, support people with mental disorders and their families, and improve mental health promotion in communities.	Mental illness	n/a
Graham 2010	Target population	Australia	HIC	Uncontrolled	Workers from diverse sectors of the mental health workforce	1126	n/a	Mental health aptitudes into practice training package including an introduction to mental health and mental illness, depression and anxiety.	Mental illness	n/a
Krawitz 2004	Target population	Australia	HIC	Uncontrolled	Staff working with BPD patients from public mental health and substance abuse services	418	n/a	2 day educational workshop about BPD including educational media, interactional learning and structured discussion.	Borderline personality disorder	n/a
Ücock 2006	Target population	Turkey	LAMIC	Uncontrolled	General Practitioners	106	n/a	Training session including information about the course of schizophrenia, treatment, the impact of stigma and a description of GP roles followed by an discussion session.	Schizophrenia	n/a
Targeted at the General Public										
Jorm 2010	Large Scale	Australia	HIC	RCT*	General population	90	84	Mental Health First Aid e-learning CD which teaches members of the public to recognize the early signs of mental illness and to provide initial help to a person developing a mental disorder or in a mental health crisis situation delivered with the aid of video clips and interactive case studies.	Mental illness	Waiting list control
Jorm 2010 (2nd arm)	Large Scale	Australia	HIC	RCT*	General population	88	84	Mental Health First Aid manual, containing the same elements as above but in written format only.	Mental illness	Waiting list control
Jorm 2004	Large Scale	Australia	HIC	RCT*	Residents in regional catchment areas	416	337	9 hour Mental Health First Aid course which teaches how to help people in the crisis situations of being suicidal, having a panic attack, being exposed to a traumatic event, or in an acute psychotic state.	Mental illness	Waiting list control
Luty 2008	Large Scale	UK	HIC	RCT	General population	148	155	Vignettes containing a photograph of a professional-looking male model with an 'upbeat' description of a hypothetical patient in remission.	Schizophrenia	Case description of a patient
Kelly 2011	Small Scale	Australia	HIC	Uncontrolled	General public	246	n/a	Youth Mental Health First Aid course which teaches adults how to support adolescents who might be developing a mental health problem/in a mental health crisis and to assist them to receive professional help.	Mental illness in adolescnets	n/a
Kitchener 2002	Small Scale	Australia	HIC	Uncontrolled	General public	190	n/a	Mental Health First Aid training (9 hours) which covers how to help people in mental health crises and/or in the early stages of mental health problems and educational information about mental illnesses.	Mental illness	n/a
Shandley 2010	Target population	Australia	HIC	Uncontrolled	General population, females aged 18-25 years	266	n/a	A web-based interactive educational game designed to support the mental health of young people and assisting them in identifying and developing coping skills dealing with precursors to mental health problems.	Mental illness	n/a
Shandley 2010 (2nd arm)	Target population	Australia	HIC	Uncontrolled	General population, males aged 18-25 years	266	n/a	A web-based interactive educational game designed to support the mental health of young people and assisting them in identifying and developing coping skills dealing with precursors to mental health problems.	Mental illness	n/a
Sogaard 1992	Large Scale	Norway	HIC	Uncontrolled	General population	T1 survey: 1191	T2 survey: 574	A 6h TV show consisting in information on mental health problems and prevention interspersed with	Mental illness	n/a

								entertainment and reporting fundraising results.		

Targeted at people with mental health problems										
Fung 2011	Target population	China (Hong Kong)	HIC	RCT*	People with schizophrenia receiving psychiatric services in the community	34	32	Self-stigma reduction programme containing 16 sessions covering psychoeducation, self-esteem, readiness for change, social skills and a goal attainment.	Schizophrenia	Newspaper reading group
Aho-Mustonen 2011	Target population	Finland	HIC	RCT	Long-stay forensic patients of a maximum security forensic psychiatric hospital	19	20	A group psychoeducation programme consisting of eight group sessions which were conducted once a week.	Schizophrenia	Treatment as usual
Gumley 2006	Target population	Wales and Ireland	HIC	RCT	People diagnosed with schizophrenia (or related disorder) prone to relapse	72	72	CBT consisting a five-session engagement phase delivered and an intensive targeted phase.	Schizophrenia	Treatment as usual (ongoing medication, regular psychiatric review and regular follow-up from key worker
Link 2002	Target population	USA	HIC	RCT	People with a serious mental illness	88 including controls	88 including controls	16 sessions consisting in specific approaches to developing an awareness of stigma, internalisation of stigma and its consequences, identification of stigma in social interactions and choosing ways to cope with it.	Mental illness	Waiting list control
Yanos 2012	Target population	USA	HIC	RCT	People with a serious mental illness who met criteria for elevated internalized stigma	15	18	Narrative enhancement/cognitive therapy including psychoeducation, cognitive restructuring and narrative enhancement which addresses themes of hope which contrast with stigmatising views.	Mental illness	Treatment as usual (did not include any services which focused on internalised stigma)
Knight 2006	Target population	England	HIC	Waiting list control	People with schizophrenia spectrum disorders	21	n/a	Two CBT interventions conducted over 7 weekly sessions focused on educating and emphasizing the similarity of experience of group members, self-esteem, and highlighting maladaptive coping strategies. Included psychoeducation about stigma and mental illness.	Schizophrenia	6 week waiting control in which participants were assessed prior to the intervention.
Schneider 2011	Small Scale	England	HIC	Uncontrolled	Service users of an English mental health trust	243	n/a	Anti-stigma campaign in an NHS trust for one month which aimed to improve public attitudes, remove barriers to service users' working, promote recovery and social inclusion and reduce the incidence of service users' experiences of discrimination and self-stigma.	Mental illness	n/a
Other										
Gulliver 2012	Target population	Australia	HIC	RCT*	Elite Athletes	30	29	Mental Health literacy and destigmatization intervention including online educational material about common mental health disorders, stigma and help-seeking sources.	Mental illness	No intervention
Gulliver 2012 (2nd arm)	Target population	Australia	HIC	RCT*	Elite Athletes	30	29	Comprised interactive quizzes providing tailored feedback to the participant about his or her level of depression and anxiety allowing the participant to assess their need to seek help.	Mental illness	No intervention
Gulliver 2012 (3rd arm)	Target population	Australia	HIC	RCT*	Elite Athletes	31	29	Help-seeking intervention including an online list of help seeking sources and a congratulatory page.	Mental illness	No intervention

								...g...g...ng...ppg			
Kitchener 2004	Target population	Australia	HIC	RCT*	Government Employees	146	155	9 hour Mental Health First Aid course which teaches how to help people in mental health crises and/or in the early stages of mental health problem. Includes mental health education about depressive, anxiety and psychotic disorders.		Mental illness	Waiting list control
Jorm 2010	Target population	Australia	HIC	RCT	School teachers of pupils aged 12-15 years	221	106	Youth Mental Health First Aid course completed over 2 days including departmental policy on mental health issues, common mental disorders in adolescents and how to apply the mental health action plan to help a students with such problem.		Mental illness	Waiting list control
Anderson 2012	Target population	USA and Canada	HIC	Uncontrolled	Certified genetic counsellors and genetic counselling students	87	n/a	A 45 minute documentary film "Cracking Up" that follows a group of individuals with mental illness as they participate in a programme that teaches individuals with mental illness how to perform stand-up comedy.		Mental illness	n/a
Pierce 2010	Target population	Australia	HIC	Uncontrolled	Football Coaches	36	n/a	Mental health first training covering depressive, anxiety and psychotic disorders, with education of overlapping substance abuse for 12 hours aver 3 weeks.		Mental illness	n/a
Pinfold 2003	Target population	England	HIC	Uncontrolled	Police Officers	163	n/a	An educational intervention delivered by service users, carers and people working in the field of mental health. Included a hearing voices simulation exercise, personal testimonies of psychotic experiences and recovery, and 'How can the police support people with mental health problems?'.		Mental illness	n/a

a High income country (HIC) or low to middle income country (LAMIC). Based on World Bank classifications as of July 1, 2012

b In studies which mesaured outcomes at more than 2 time points, only the first and last assessments were included in the table. In RCTs, only time*intervention interactions were reported. Where this was carried across multiple time points, only the final time point results were reported. When studies included between and within-group an

c + indicates p< 0.05 in a direction of benefit (reduction in stigma); 0 indicates p>0.05; - indicates p<0.05 in direction of harm (increase in stigma). Each symbol represents one outcome (scales, or item)

Time to follow-up		Evidence of effectiveness[c]			Outcome Measures
		Knowledge	Attitudes	Behaviour	
8 weeks	Scale		0		Perceived barriers to seeking mental health services; Stigma and Beliefs Subscales (Hoge et al., 2004)
	Item				Intention to engage in treatment (developed by authors) Actual engagement in treatment (self-report/evidence of a clinical note in the VA electronic medical record)
6 months	Scale		0		5-item version of the Stigma Scale (Hoge et al., 2004)
	Item				
1 month	Scale		0+++		Attitudes to Stress and PTSD Schedule (developed and used by the Royal Navy).
	Item				Stigma of Help-seeking from TRiM practitioners or normal military support networks - 6 items taken from Hoge et al.'s (2004) 18 item Help Seeking questionnaire
2.5 months	Scale		0		Corrigan's Attribution Questionnaire (Corrigan et al., 2003); 3 subscales used (fear, anger and coercion/segregation) .
	Item				
8 weeks	Scale	+	0		'In our own Voice' Knowledge Measure (Wood & Wahl., 2006)
	Item				Revised Attribution Questionnaire (Watson et al., 2004)
3 months	Scale		0		Questionnaire on Social Distance (Schulze et al., 2003)
	Item				Help-Seeking Questionnaire (Wilson et al., 2005; Australian Government Department of Health and Ageing, 2007)
12 months	Scale		0		Alberta Pilot Site Questionnaire Toolkit (Thompson et al., 2002)
	Item	000+++++++			
12 weeks	Scale		+		Opinion about Mental Illness Questionnaire (Struening & Cohen., 1963) - 3 subscales used
	Item				Pro-Con Attitude Scale (Fisher & Turner., 1970)
6 months	Scale	000++++			Mental Health Questionnaire (6 scales) - developed by the authors and adapted from Attitudes to Mental Health and Knowledge of Mental Health Issues Questionnaire by the Royal College of Psychiatrists
	Item				
7 months	Scale		-000+++		Opinion about Mental Illness in the Chinese Community Scale (Chu, 1996) - 6 factors
	Item				
16 weeks	Scale		0		Personal Attitudes Subscale of the Depression Stigma Scale (Griffiths et al., 2004).
	Item				
20 weeks	Scale	0	0		Depression Literacy Scale (Christensen et al., 2004)
	Item				Attitudes to Depression (Griffiths et al., 2004)

1 month	Scale		++		Stereotypes of Schizophrenia (Schulze et al., 2003) Social distance (Schulze et al., 2003)						
	Item										
4 months	Scale	+	+++		Knowledge measure (Ventieri et al., 2011) Attitude measure; Benevolence subscale and Unkindliness subscale (Ventieri et al., 2011) Social distance (Schulze et al, 2003)						
	Item										
3 months	Scale				England National Survey 2002 (Pinfold et al, 2003) Social Distance (Mino et al., 2000) Attitudes towards Mental Illness (Mino et al., 2001)						
	Item	0000+++++	0000000000+++ ++++++								
3 months	Scale		+		Myths & Facts about Schizophrenia School Evaluation (World Psychiatric Association., 1996) - translated into Italian, Schizophrenia						
	Item	-000++	0000+								
3 months	Scale		+		Myths & Facts about Schizophrenia School Evaluation (World Psychiatric Association., 1996) - translated into Italian, Schizophrenia						
	Item	00000+	00000								
1 month	Scale	+			Quiz taken from the Mindout for Mental Health activity pack for young people (Department of Health, 2001)						
	Item										
6 months	Scale		0++		Opinion about Mental Illness Questionnaire (Struening & Cohen, 1963)						
	Item										
6 months	Scale		+		Mental health knowledge, Attitudes towards people with Mental Health Disorders and Social Distance Scales (Pinfold et al., 2003b). All questionnaires based on an instrument piloted in the World Psychiatric Association's anti-stigma school project in Canada, 2000).						
	Item	0+++									
4 weeks	Scale		0		Nunnally Conception of Mental Illness Questionnaire (Nunnaly., 1961) Attitudes Towards Seeking Professional Psychological Help Scale-Short Form (Fisher & Farina., 1995)						
	Item										
8 weeks	Scale		0000		Attitudes to Psychiatry Scale (Burra et al., 1982) Attitudes Toward Serious Mental Illness Scale - Adolescent Version (Watson et al., 2005) Dangerousness Scale (Link & Cullen., 1986) Social Distance Scale (Penn et al., 1994)						
	Item										
1 month	Scale		00		Opinion about Mental Illness Questionnaire (Struening & Cohen, 1963) - 3 subscales used Attitudes Towards Seeking Professional Psychological Help Scale - Short Form (Fischer & Farina, 1995) Actual Help-seeking Behaviour (Sharp et al., 2006)						
	Item										
8 months	Scale		----0		Attitudes about Mental Illness (Domino., 1983)						
	Item										

Time	Scale/Item				Measure
1 month	Scale		0++++		Community Attitudes toward the Mentally Ill questionnaire (Taylor & Dear, 1981)
	Item				Behavioural Intentions Scale for Students (Faigin et al., 2008)
	Scale		0++++		Community Attitudes toward the Mentally Ill questionnaire (Taylor & Dear, 1981)
	Item				Behavioural Intentions Scale for Students (Faigin et al., 2008)
6 months	Scale	0	0		Mental Health Knowledge Schedule (Evans-Lacko et al., 2010)
					Community Attitudes toward the Mentally Ill questionnaire (Taylor & Dear, 1981)
	Item		0+		Intended Behaviour Scale (Evans-Lacko et al, 2011)
6 weeks	Scale	0+	++		National Survey of Mental Health Literacy (Jorm et al, 1997).
	Item	0+			Social Distance Scale (Corrigan, 2001)
1 month	Scale				Social Distance Scale (Psychiatric Research and Education Center)
	Item		000000+		
1 month	Scale		+		The Community Attitudes toward the Mentally Ill Scale (Taylor & Dear, 1981) - the term 'mental illness' was changed to 'psychological disorder'
	Item				
12 months	Scale				Pharmacist Attitudes Towards Mental Illness and Stigmatization of Consumers (Bell et al, 2006)
	Item		0000+++++++++ +++++		
6 months	Scale		0		International Depression Literacy Survey (Hickie et al., 2007)
	Item	--00000000+++			Mental Illness: Clinician's Attitude's (Kassam et al, 2010) - term 'mental illness' was changed to 'depression'
6 months	Scale		+		International Depression Literacy Survey (Hickie et al., 2007)
	Item	-00000000++++			Mental Illness: Clinician's Attitude's (Kassam et al, 2010) - term 'mental illness' was changed to 'depression'
1 month	Scale	0+	000000+++++		Knowledge scale (Irvine et al., 2012)
					Video Situational Testing (VST) Knowledge of appropriate reactions to situations (Irvine et al., 2012)
					Attitude Scale (Irvine et al., 2012)
					Empathy Scale (Ray & Miller, 1994)
	Item				Stigma Attribution Questionnaire AQ-27 (Corrigan., 2004, 2008) - 9 subscales
					Intentions Scale (Irvine et al., 2012)
18 months	Scale		+		Self harm antipathy scale (Patterson et al., 2006)
	Item				
6 months	Scale		+		Attitudes Towards Deliberate Self-harm Questionnaire (McAllister et al., 2002)
	Item				
6 months	Scale		0		Attitudes Towards Deliberate Self-harm Questionnaire (McAllister et al., 2002)

6 months	Item				Attitudes Towards Deliberate Self-harm Questionnaire (McAllister et al., 2002)						
3 months	Scale				Mental Health Literacy survey, adapted by authors from Jorm et al. (1997)						
	Item	0000000000++++ +++++++	0000000000000 +								
6 months	Scale		++		Mental health literacy (Jorm et al., 1997) Self-assessed Mental Health Knowledge and Skills (Graham, 2010). Social Distance (Link et al., 1999) Community Attitudes toward the Mentally Ill questionnaire (Taylor & Dear, 1981) - Community Mental Health Ideology Subscale						
	Item	-0000++++									
6 months	Scale				Clinician Attitudes and Perceptions of Knowledge and Skills (Krawitz, 2004)						
	Item	++	++++								
3 months	Scale				Attitudes of Doctors Towards General Myths about Schizophrenia (Ücock et al., 2006)						
	Item		0000000++++++								
6 months	Scale	000+	0+++		Mental Health Literacy (Jorm et al., 1997) Perceived Stigma Scale (Griffiths., 2008) Personal Stigma Scale (Griffiths et al., 2008) Social Distance (Link et al., 1999).						
	Item	+									
6 months	Scale	000+	000+		Mental Health Literacy (Jorm et al., 1997) Perceived Stigma Scale (Griffiths., 2008) Personal Stigma Scale (Griffiths et al., 2008) Social Distance (Link et al., 1999).						
	Item	+									
4 months	Scale	+	+		Mental Health Literacy (Jorm et al, 1997) Confidence and Intentions providing Mental Health First Aid (Kitchener & Jorm, 2004) Social distance (Link et al, 1999)						
	Item	+		0							
4 weeks	Scale		0		Attitudes to Mental Illness Questionnaire (Luty et al, 2006)						
	Item										
6 months	Scale	00+			Mental Health Literacy (Jorm et al, 1997) Perceived Stigma Scale (Griffiths et al, 2008) Personal Stigma Scale (Griffiths et al, 2008).						
	Item	++	0000000000+++ +								
6 months	Scale	++	+		Recognition of Mental Illness using vignettes (Kitchener et al., 2002) Beliefs about Treatment for Depression and Schizophrenia (vignettes) (Kitchener et al., 2002) Social Distance Scale (Link et al., 1999) Contact with someone with a mental health problem (Kitchener et al., 2002)						
	Item	0+		0							
2 months	Scale				Mental Health Literacy (Shandley et al., 2010) Stigma (Shandley et al., 2010) Help-seeking (Shandley et al., 2010)						
	Item	0	0								
2 months	Scale				Mental Health Literacy (Shandley et al., 2010) Stigma (Shandley et al., 2010) Help-seeking (Shandley et al., 2010)						
	Item	0	0								
1 month	Scale				Omnibus Survey (Sogaard et al., 1992)						

		0000+	000+++++	0							
	Item	0000+	000+++++	0							
6 months	Scale	0	000		The Chinese Self-stigma of Mental Illness Scale (Fung et al, 2007) - Stereotype Agreement, Self-concurrence and Self-esteem Decrement subscales						
	Item										
3 months	Scale	+	0		Knowledge about Schizophrenia Questionnaire (Ascher-Svanum and Krause., 1991)						
	Item				The Rosenberg Self-Esteem Scale (Rosenberg., 1965) Perceived Stigma Questionnaire (Link et al., 1989)						
12 months	Scale		000+		Personal Beliefs about Illness Scale Birchwood et al (1993) - Loss, Shame and Humiliation subscales						
	Item				The Rosenberg Self-Esteem Scale (Rosenberg., 1965)						
6 months	Scale		000	0000000	Different and Ashamed Scale (Link et al., 2002) Misunderstood by Others (Link et al., 2002) Rosenberg's Self-Esteem Scale (Rosenberg, 1979) Perceived Devaluation-Discrimination (Link, 1987, 1989)						
	Item				Self-Reported Experiences of Rejection (Link et al, 1997) - modified version. Approaches to Coping with Stigma - Secrecy, Withdrawal and Educating scales (Link et al, 1989) ; Challenging and Distancing scales (Link et al., 2002)						
3 months	Scale	0	0		Internalized Stigma of Mental Illness (Ritsher & Phelan, 2004)						
	Item				Rosenberg Self-Esteem Scale (Rosenberg, 1989)						
6 weeks	Scale		00	00	Empowerment (Rogers et al, 1997) Index of Self-Esteem (Hudson, 1982) Perceived devaluation and discrimination (Link, 1985)						
	Item				Cybernetic Coping Scale (Edwards & Baglioni, 1993).						
1 month	Scale				Service Users' Perceptions of Public Attitudes towards Mental Illness, Relationships with Staff and Inter-personal Relationships (Schneider et al., 2011)						
	Item			0000000000 0000000000 0000++							
3 months	Scale	++	0+		Depression Literacy Questionnaire (Griffiths et al, 2004) Anxiety Literacy Questionnaire (developed by Griffiths., 2012) Depression Stigma Scale (Griffiths et al., 2004) Generalised Anxiety Stigma Scale (Griffiths et a., 2011)						
	Item				Attitudes Towards Seeking Professional Psychological Help Scale - Short Form (ATSPPH-SF) (Fischer & Farina, 1995) Intentions Scale of the General Help-seeking Questionnaire (GHSQ) (Deane et al, 2001) Actual Help-seeking Questionnaire (AHSQ) (Wilson et al, 2002)						
3 months	Scale	00	00		Depression Literacy Questionnaire (Griffiths et al, 2004) Anxiety Literacy Questionnaire (developed by Griffiths., 2012) Depression Stigma Scale (Griffiths et al., 2004) Generalised Anxiety Stigma Scale (Griffiths et a., 2011)						
	Item				Attitudes Towards Seeking Professional Psychological Help Scale - Short Form (ATSPPH-SF) (Fischer & Farina, 1995) Intentions Scale of the General Help-seeking Questionnaire (GHSQ) (Deane et al, 2001) Actual Help-seeking Questionnaire (AHSQ) (Wilson et al, 2002)						
3 months	Scale	00	0+		Depression Literacy Questionnaire (Griffiths et al, 2004) Anxiety Literacy Questionnaire (developed by Griffiths., 2012) Depression Stigma Scale (Griffiths et al., 2004) Generalised Anxiety Stigma Scale (Griffiths et a., 2011)						

	Item				Attitudes Towards Seeking Professional Psychological Help Scale - Short Form (ATSPPH-SF) (Fischer & Farina, 1995) Intentions Scale of the General Help-seeking Questionnaire (GHSQ) (Deane et al, 2001) Actual Help-seeking Questionnaire (AHSQ) (Wilson et al, 2002)							
5 months	Scale	00	+		Recognition of Mental Illness using vignettes (Kitchener et al., 2002) Beliefs about Treatment for Depression and Schizophrenia (vignettes) (Kitchener et al., 2002) Social Distance Scale (Link et al., 1999) Contact with someone with a mental health problem (Kitchener et al., 2002)							
	Item	00		0								
6 months	Scale	++			Mental Health Literacy (Jorm et al, 1997) Perceived Stigma Scale (Griffiths, 2008) Personal Stigma Scale (Griffiths et al, 2008) School Policies on Student Mental Health (developed by authors)							
	Item	0000000+	000000+	0++++								
1 month	Scale	0	0		Stereotype Endorsement scale (Nordt et al., 2006) Social Distance Scale (Penn et al., 1994)							
	Item											
6 months	Scale				Recognition of Depression and Schizophrenia (vignettes) (Kitchener & Jorm, 2004) Responses to Depression (Kitchener & Jorm, 2004) Depression Management (Kitchener & Jorm, 2004)							
	Item	0000000000000000+++++										
4 weeks	Scale	0	0+++		Knowledge of mental illness (Pinfold et al., 2003a) Officers endorsements of 5 key workshop messages (Pinfold et al., 2003a)							
	Item	+++++			Community Attitudes towards Mental Illness (Taylor and Dear, 1981) and WPA Alberta Pilot site questionnaire tool kit (WPA, 2000) used to create an Attitude measure (3 scales) and a Social Distance measure (4 items)							

nalyses, only the between group data was extracted. In studies with a control group where data was analysed within-group, results were only reported as a benefit or harm when no changes were detected in the control group. In pre-post studies with a control group, we only reported findings at time points where control data was prese

When a study included unadjusted and adjusted logistic regressions, multiple regressions or ANCOVAs, we extracted the adjusted findings only.

Table DS4. Medium/long-term effectiveness of interventions to reduce stigma: statisitical significance and direction of findings (longitudinal, panel, prospective and cohort studies)

Study	Country	High or low/middle income country[a]	Design[b]	Participant type	Intervention Participants (n)	Control Participants (n)	Intervention Description	Condition that was focused on	Control description	Time to final follow-up	
Corker 2013	England	HIC	Longitudinal panel study	Mental health service users	T1:537 T2: 979 T3: 1016	n/a	Time To Change programme which aims to reduce stigma and discrimination against people with mental health problems.	Mental Illness	n/a	3 years	Scale / Item
Evans-Lacko 2013a	England	HIC	Longitudinal panel study	General population	T1: 1751 T2: 1745 T3: 1717	n/a	Time To Change programme which aims to reduce stigma and discrimination against people with mental health problems.	Mental Illness	n/a	3 years	Scale / Item
Evans-Lacko 2013b	England	HIC	Longitudinal panel study	General population	T1: 1110 T2: 868	n/a	Social marketing campaign of the Time To Change programme which aims to reduce stigma and discrimination against people with mental health problems.	Mental Illness	n/a	2.5 years	Scale / Item
Henderson 2012	England	HIC	Longitudinal panel study	Users of specialist mental health services	T1: 537 T2: 1047	n/a	Time To Change programme which aims to reduce stigma and discrimination against people with mental health problems.	Mental Illness	n/a	1 year	Scale / Item
Henderson 2013	England	HIC	Longitudinal panel study	Senior British employers	T1: 480 T2: 500 T3: 500	n/a	Time To Change programme which aims to reduce stigma and discrimination against people with mental health problems.	Mental Illness	n/a	4 years	Scale / Item
Crisp 2005	UK	HIC	Longitudinal panel study	General population	T1: no info T2: 1725	n/a	Changing Minds campaign which aimed challenge discrimination and educate the public about mental disorders.	Mental Illness	n/a	5 years	Scale / Item
Mehta 2009[d]	UK	HIC	Longitudinal cohort study with control group	General population	T1: 1000 T2: 1000	T1: 1000 T2: 1000	See Me anti-stigma campaign which aimed to deliver specific messages to members of the public using a range of media.	Mental Illness	Negative coverage of mental health legislation issues in England	3 years	Scale / Item
Paykel 1998	UK	HIC	Longitudinal panel study	General population	T1: 2009 T2: 2050 T3: 1946	n/a	Defeat Depression campaign aimed to reduce stigma associated with depression in order to encourage earlier treatment-seeking using a range of media.	Depression	n/a	6 years	Scale / Item

	Country		Study design	Population	Intervention sample	Control sample	Intervention	Condition	Control	Duration		
Dietrich 2010	Germany	HIC	Longitudinal panel study with control group	General population	T1: 713 T2: 740 T3:709	T1: 710 T2: 750 T3:707	Nuremberg Alliance Against Depression campaign about depression using print materials and local media to counteract negative media reporting.	Depression	Samples from another city in Germany, Wurzburg, where the intervention did not occur	2 years	*Scale*	
											Item	
Gaebel 2008	Germany	HIC	Longitudinal cohort study with control group	General population	T1: 2443 T2: 1493	T1: 2391 T2: 1571	Global Program against Stigma and Discrimination Because of Schizophrenia campaign which promoted contact to people with mental illness and education of target groups.	Schizophrenia	No antistigma or awareness programmes conducted in Berlin and Essen.	3 years	*Scale*	
											Item	
Gaebel 2008 (2nd arm)	Germany	HIC	Longitudinal cohort study with control group	General population	T1: 2391 T2: 1558	T1: 2391 T2: 1571	Awareness programme set up to address specific target groups who are frequently in contact with young people at risk of developing schizophrenia.	Schizophrenia	No antistigma or awareness programmes conducted in Berlin and Essen.	3 years	*Scale*	
											Item	
Grausgruber 2009	Austria	HIC	Longitudinal panel study	General population	T1: 1042 T2: 988	n/a	Anti-stigma campaign with events including: educational interventions in schools, social advertising and conferences where people with mental health problems and family members were able to discuss their experiences.	Mental Illness, focus on Schizophrenia	n/a	9 years	*Scale*	
											Item	
Jorm 2005	Australia	HIC	Longitudinal panel study with control group	General population	T1: 687 T2: 522	T1: 323 T2: 388	Beyondblue campaign which aimed to improve knowledge and responses to depression. Its priority areas include community awareness and destigmatisation.	Depression	Surveys carried out in low-exposure states (those that did not provide funding for the campaign)	8 years	*Scale*	
											Item	
Jorm 2006	Australia	HIC	Longitudinal panel study with control group	General population	T1: 687 T2: 522	T1: 323 T2: 388	Beyondblue campaign which aimed to improve knowledge and responses to depression. Its priority areas include community awareness and destigmatisation.	Depression	Surveys carried out in low-exposure states (those that did not provide funding for the campaign)	8 years	*Scale*	
											Item	
Reavley 2012	Australia	HIC	Longitudinal panel study	General population	T1: 3998 T2: 5860	n/a	Australian national campaigns to improve mental health literacy and reduce stigma: beyondblue and SANE Australia.	Mental Illness	n/a	8 years	*Scale*	
											Item	
Wright 2006	Australia	HIC	Longitudinal panel study	Young people aged 12-25 years	T1: 538 T2: 520	T1: 538 T2: 520	Mental health literacy community awareness campaign targeting young people using multimedia, a website and an information telephone service.	Mental Illness	Regions in which intervention was not implemented	14 months	*Scale*	
											Item	

a High income country (HIC) or low to middle income country (LAMIC). Based on World Bank classifications as of July 1, 2012

b Study designs included: longitudinal panel studies with a control group, longitudinal panel studies without a control group and longitudinal cohort studies with a control group.

c + indicates p< 0.05 in a direction of benefit (reduction in stigma); 0 indicates p>0.05; - indcates p<0.05 in direction of harm (increase in stigma). Each symbol represents one outcome (scales, or item). Comparisons were made between baseline and final follow-up assessments.

d This study found evidence of harm in 4/25 items in the intervention group and 17/25 items in the control group; results are presented as a reduction of harm (benefit) in 13/25 items

Knowledge	Attitudes	Behaviour	Outcome measures
			Evidence of effectiveness[c]
		00+	The Discrimination and Stigma Scale (Brohan et al., 2012)
0	+	0	Mental Health Knowledge Schedule (Evans-Lacko et al., 2010) Attitudes to Mental Illness questionnaire (Department of Health., 1993) Intended Behaviour Scale (Evans-Lacko et al, 2011) Reported Behaviour Scale (Evans-Lacko et al, 2011)
0	0		Mental Health Knowledge Schedule (Evans-Lacko et al., 2010) Attitudes to Mental Illness questionnaire (Department of Health., 1993) Intended Behaviour Scale (Evans-Lacko et al, 2011) Reported Behaviour Scale (Evans-Lacko et al, 2011)
	000+		
		+	The Discrimination and Stigma Scale (Brohan et al, 2012)
		0++	
000000+++++++	00++++++	00000+++++++++	Knowledge of Mental Health in the Workplace (Henderson et al., 2013) Attitudes of Employers (Henderson et al., 2013) Mental Health Policies in the Workplace; Preparedness for Workplace Mental Health Problems (Henderson et al., 2013)
	0000000000000000++++++++++++++++		Negative Attitudes to People with Mental Illnesses (Crisp et al., 2005)
	000000000000+++++++++++++		Community Attitudes to the Mentally Ill survey (Taylor & Dear, 1981)
0000++++++++++++++++++++++	000++++	0+	Structured Interview (Paykel et al., 1998)

			Beliefs about causes, symptoms and treatment of depression (Dietrich et al., 2010) General Attitudes towards depression (Dietrich et al., 2010)
-00000000000+			
	0+		
			Transient' and 'Closer' factors of the Social Distance Scale (Bogardus, 1925) modified by Stuart and Arboleda-Florez (2001)
	00		
			Transient' and 'Closer' factors of the Social Distance Scale (Bogardus, 1925) modified by Stuart and Arboleda-Florez (2001)
	0		Attitudes to Schizophrenia (Grausgruber et al., 2009) Attitudes to Schizophrenia (Grausgruber et al., 2009) -using vignettes
-+	---		Social Distance scale; from Angemeyer (1997) and Link (1999) (adapted by the authors)
			Mental Health Literacy (Jorm et al., 1997)
00000000000000000000000000++++++			
			Mental Health Literacy (Jorm et al., 1997)
-	000000000+	0	
			Perceived discrimination (Reavley et al., 2012) Perceived Stigma Scale (Griffiths et al., 2004) Personal Stigma Scale (Griffiths et al., 2004) Social Distance (Link et al., 1999).
0000000000000000000000000000000++++++	---------0000000000000000000000000000000000000		
			Survey questionnaire (Wright et al., 2005)
000000000+++		0	

Table DS5. Effectiveness of interventions to reduce stigma in low- and middle-income countries: study characteristics, statistical significance and direction of findings

Study	Country	Income Group[a]	Design[b]	Participant type	Intervention Partcipants (n)	Control Partcipants (n)	Intervention Description		Knowledge	Attitudes	Behaviour
Gutierrez-Maldomado 2009	Chile	Upper-middle income	RCT	Key caregivers of patients with Schizophrenia	18	23	Psychoeducational programme aiming to change caregivers attitudes to schizophrenia and their general health perceptions.	Scale		+	
								Item			
Hao 2011	China	Upper-middle income	RCT	University students majoring in developmental psychology	34	30	Group mental health training for improving students intentions and attitudes towards seeking psychological help.	Scale		++++	
								Item			
Rahman 1998	Pakistan	Lower-middle income	RCT	School children (12-16 years)	50	50	Mental health programme in schools to improve the understanding of mental-health disorders and increase awareness of available treatment. Schoolchildren share knowledge with friends, family and neighbours.	Scale		+	
								Item			
Rahman 1998 (sample 2)	Pakistan	Lower-middle income	RCT	Parents of school children	50	50	As above	Scale		+	
								Item			
Rahman 1998 (sample 3)	Pakistan	Lower-middle income	RCT	Friends of school children not in school	50	50	As above	Scale		+	
								Item			
Rahman 1998 (sample 4)	Pakistan	Lower-middle income	RCT	Neighbours of school children	50	50	As above	Scale		+	
								Item			
Bayar 2009	Turkey	Upper-middle income	Post-test controlled	Medical professionals in psychiatry	100	105	An instructive e-mail that presented a general account of stigma in mental health.	Scale		+	
								Item			
Altindag 2006	Turkey	Upper-middle income	Controlled	Medical Students	25	35	1 day program with an educational lecture about stigma and schizophrenia, direct contact with a young person with schizophrenia and indirect contact, viewing of the film 'A Beautiful Mind'.	Scale			
								Item		0000+++	
Armstrong 2011	India	Lower-middle income	Uncontrolled	Community health workers	70	n/a	Mental health training program aiming to increase recognition of mental disorders, enhance appropriate response and referral, support people with mental disorders and their families, and improve mental health promotion in communities.	Scale			
								Item	000000000000+++++ ++++	0	
Chinnayya 1990	India	Lower-middle income	Uncontrolled	Primary health care workers	150	n/a	1 week mental health training programme - lectures, case demonstrations and role play.	Scale			
								Item	00000+++++++	0++	
Garcia Silberman 1993	Mexico	Upper-middle income	Uncontrolled	High school students (16-23 years)	21	n/a	A commercial film depicitng a true story in which a psychiatrist is portrayed in a positive light.	Scale			
								Item		-- 0000000000000000000000000++++ +++++++++++++++	
Garcia Silberman 1993 (2nd arm)	Mexico	Upper-middle income	Uncontrolled	High school students (16-23 years)	21	n/a	A commercial film depicitng a true story in which a psychiatrist is portrayed in a negative light.	Scale			
								Item		------------------------- 000000000000+++++++++	
Ghorbani 2009	Iran	Upper-middle income	Uncontrolled	High school students (15-16 years)	639	n/a	A teen health webiste covering mental health topics in various media formats.	Scale	0		
								Item			
Rong 2011	China	Upper-middle income	Uncontrolled	Medical Students	103	n/a	The intervention consisted in a 1.5 hour lecture which covered all the basic medical aspects about depression required by the teaching guidelines	Scale		0	
								Item		--000000000++	
Rong 2011 (2nd arm)	China	Upper-middle income	Uncontrolled	Medical Students	102	n/a	The intervention consisted in a 1.5 hour lecture about depression and 2 weeks of additional activities carried out by students about the experience of mental illness.	Scale		+	
								Item	000000000++++		
Worakul 2007	Thailand	Upper-middle income	Uncontrolled	Caregivers or family members	91	n/a	Psycho-educational program aiming to provide knowledge, reduce the cargegivers'stress, and help	Scale	0		

Evidence of Effectiveness (at post-intervention)[c]

Worakul 2007	Thailand	Upper-middle income	Uncontrolled	of patients with schizohprenia	32	+/0	the caregivers to provide care to the patients more effectively.	Item

a Categorised using the World Bank classifications as of July 1st 2012

b Type of study design includes: randomised controlled trials (RCT), randomised controlled trials analysed within-group (RCT1), post-test only controlled experimental study (Post-test controlled) and pre-post studies with no control group (Uncontrolled). Findings at post-intervention: comparisons were made between baseline and post-intervention assessments and grouped into knowledge and attitudes.

c + indicates p< 0.05 in a direction of benefit (reduction in stigma); 0 indicates p>0.05; - indicates p<0.05 in direction of harm (increase in stigma). Each symbol represents one outcome (scales, or item)

Rahman A, Mubbashar MH, Gater R, Goldberg D. Randomised trial of impact of school mental-health programme in rural Rawalpindi, Pakistan. Lancet. 1998;352(9133):1022-5.

Bayar MR, Poyraz BC, Aksoy-Poyraz C, Arikan MK. Reducing mental illness stigma in mental health professionals using a web-based approach. Israel Journal of Psychiatry & Related Sciences. [Randomized Controlled Trial]. 2009;46(3):226-30.

Premalatha Chinnayya H, Chandrashekar CR, Moily S, Puttamma, Raghuram A, Subramanya KR, et al. Training Primary Care Health Workers in Mental Health Evaluation of Attitudes towards Mental Illness before and after Training. International Journal of Social Psychiatry. 1990 December 1, 1990;36(4):300-7.

Garcia Silberman S. Mental health and the movies: An experimental study about attitude change. Revista Mexicana de Psicología. 1993 Jan-Jun;10(1):37-48.

Ghorbani NR, Heidari RN. Effects of information and communication technology on youth's health knowledge. Asia-Pacific Journal of Public Health. 2011 May;23(3):363-8.

Worakul P, Thavichachart N, Lueboonthavatchai P. Effects of psycho-educational program on knowledge and attitude upon schizophrenia of schizophrenic patients' caregivers. J Med Assoc Thai. 2007 2007;90(6):1199-204.

						Scale																		Social Distance Scale (Psychiatric Research and
			L		1 month	Item				$B^{(1/7)}$	$O^{(6/7)}$											L		
					3 months	Scale																Mental Health Literacy survey, adapted by authors
		L	N			Item	$B^{(1/11)}$ $B^{(2/2)}$	$O^{(10/11)}$		$B^{(1/7)}$	$O^{(6/7)}$ $O^{(7/7)}$								E	L			

																				N	International Depression		
																				L	Literacy Survey (Hickie et		
																				E	International Depression		
																				L	Literacy Survey		

Table DS6. Quality ratings for randomised controlled trials using Cochrane Risk of Bias Tool

Study reference	Random sequence generation	Allocation concealment	Blinding participants and personnel	Blinding of outcome assessment	Incomplete outcome data	Selective outcome reporting
Gulliver 2012	L	L	L	L	L	L
Fung 2011	L	U	U	L	L	L
Jorm 2004*	L	L	H	L	L	L
Jorm 2010a	L	L	H	L	L	L
Kitchener 2004	L	L	H	L	L	L
Aho-Mustonen 2011	L	U	H	L	L	H
Irvine 2012	U	U	U	L	L	L
Jorm 2010b*	L	H	H	L	L	L
Seal 2012	U	U	U	L	L	L
Sharp 2006	U	L	U	L	H	L
Yanos 2012	L	L	U	U	L	L
Kerby 2008	U	L	H	L	L	H
Luty 2008	L	U	U	U	H	L
Pinto-Foltz 2011*	U	U	H	U	L	L
Campbell 2011*	U	U	U	U	H	L
Gumley 2006	L	H	U	H	L	H
Castro 2012*	H	H	H	U	H	U
Gonzales 2002	U	U	U	U	H	L
Link 2002	U	U	U	U	H	L

*Cluster randomised trials

§Validated = at least one scale was validated; Previously published = scale had been previously published, no evidence of validity

Other bias	Validity of Scales§
U	Validated
L	Validated
U	Validated
U	Validated
U	Validated
L	Validated
L	Validated
H	Validated
L	Previously published
L	Validated
H	Validated
H	Validated
L	Validated
L	Validated
L	Validated
U	Validated
L	Previously published
H	Validated
U	Validated

Table DS7. Quality ratings for non randomised studies usin

Study reference	Selection Bias (intervention vs control group)¥
Altindag 2006	U
Anderson 2012	n/a
Armstrong 2011	n/a
Buizza 2007	n/a
Conrad 2009	U
Domino 1983	L
Economou 2012	L
Essler 2006	n/a
Esters 1998	U
Faigin 2008	L
Friedrich 2013	H
Gould 2007	H
Graham 2010	n/a
Kelly 2011	n/a
Kitchener 2002	n/a
Knight 2006	U
Krawitz 2004	n/a
Masuda 2009	n/a
Naylor 2009	L
Ng 2002	L
O'Kearney 2006	H
O'Kearney 2009	H
O'Reilly 2010	n/a
O'Reilly 2011	H
Patterson 2007	H
Pejovic-Milovancevic 2009	n/a
Pierce 2010	n/a
Pinfold 2003a	n/a
Pinfold 2003b	n/a
Rong 2011	L

Schneider 2011	n/a
Schulze 2003	H
Shandley 2010	
Sogaard 1992	n/a
Treolar 2009	H
Ucock 2006	n/a
Ventieri 2011	H
Corker 2013	n/a
Evans-Lacko 2013a	n/a
Evans-Lacko 2013b	n/a
Henderson 2012	n/a
Henderson 2013	n/a
Crisp 2005	n/a
Mehta 2009	n/a
Paykel 1998	n/a
Dietrich 2010	n/a
Gaebel 2008	H
Jorm 2005	H
Jorm 2006	H
Reavley 2012	n/a
Wright 2006	H
Grausgruber 2009	n/a
Yamaguchi 2007	U

¥Comparability between the intervention and control groups. †Repr
ΔWhether or not the authors controlled for any confounders in the ;
developed by authors with no evidence of validity; Items only= scale

criteria developed by review team (based on an adaptation of the Co

Selection Bias (representativeness)†	Attrition Bias‡	Selective Outcome reporting
H	L	L
U	H	L
U	L	H
U	H	H
L	U	H
U	H	L
L	L	L
H	L	L
U	L	L
H	L	L
U	H	L
U	H	L
H	H	H
H	H	L
H	L	L
L	L	L
U	H	L
H	L	L
L	L	L
U	H	L
H	L	L
L	H	L
L	H	L
L	L	L
H	H	L
U	L	L
U	H	H
L	H	L
U	H	L
U	U	L

H	L	L
H	U	L
H	L	L
L	H	L
H	H	L
U	H	L
H	L	L
H	n/a	L
L	n/a	L
L	n/a	L
H	n/a	L
L	n/a	L
L	n/a	L
L	n/a	L
L	n/a	L
L	n/a	L
L	H	L
H	n/a	L
H	n/a	L
H	n/a	L
L	n/a	L
L	n/a	L
L	L	L

asentativeness of sample in comparison to the target population. ‡ Whether there
analysis. §Validated = at least one scale was validated; Previously published = scale
s have been reported at item level/only single items have been used.

Performance Bias (blinding of personnel and participants)	Confounding (did authors control for or consider possible confounders)Δ
U	N
U	Y
U	N
U	N
U	Y
U	N
U	N
U	N
U	N
U	Y
U	Y
U	Y
U	N
U	N
U	N
U	N
U	Y
U	N
U	Y
U	N
H	N
H	N
U	N
U	N
U	N
U	N
U	N
U	N
U	N
U	N

U	N
U	Y
U	N
U	N
U	N
U	N
U	Y
n/a	N
n/a	Y
n/a	Y
n/a	N
n/a	Y
n/a	N
n/a	N
n/a	N
n/a	N
n/a	N
n/a	N
n/a	N
n/a	Y
n/a	Y
n/a	Y
U	N

was more than 20% attrition and if so, whether an intention to treat analys
had been previously published, no evidence of validity; Developed by autho

Validity of Scales§
Items only
Validated
Items only
Previously published
Validated
Developed by authors
Items only
Previously published
Validated
Validated
Validated
Items only
Validated
Validated
Validated
Validated
Items only
Validated
Developed by authors
Validated
Items only
Validated
Items only
Validated
Validated
Validated
Items only
Items only
Items only
Validated

Items only

Validated

Items only

Items only

Validated

Items only

Validated

Validated

Validated

Validated

Validated

Items only

Items only

Items only

Items only

Developed by authors

Validated

Items only

Items only

Items only

Items only

Developed by authors

Items only

is was carried out.

rs = scale was