Mental health-related stigma in health care and mental health-care settings

Claire Henderson, Jo Noblett, Hannah Parke, Sarah Clement, Alison Caffrey, Oliver Gale-Grant, Beate Schulze, Benjamin Druss, Graham Thornicroft

This Review considers the evidence for mental-health-related stigma in health-care and mental-health-care settings. Do mental-health-care and other health-care professionals stigmatise people using their services? If so, what are the effects on quality of mental and physical health care? How can stigma and discrimination in the context of health care be reduced? We show that the contact mental-health-care professionals have with people with mental illness is associated with positive attitudes about civil rights, but does not reduce stigma as does social contact such as with friends or family members with mental illness. Some evidence suggests educational interventions are effective in decreasing stigma especially for general health-care professionals with little or no formal mental health training. Intervention studies are needed to underpin policy; for instance, to decrease disparity in mortality associated with poor access to physical health care for people with mental illness compared with people without mental illness.

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Health Service and Population Research Department, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK (C Henderson PhD, H Parke MSc, S Clement PhD, Prof G Thornicroft)**; Springfield Hospital, South West London and St George's NHS Mental Health Trust, London, UK** (J Noblett MBBCh, A Caffrey MB ChB)**; St George's Hospital, St George's Healthcare NHS Trust, London, UK** (O Gale-Grant MBBS)**; Institute of Social Medicine, Occupational Medicine and Public Health, University of Leipzig** (B Schulze PhD)**; and Rollins School of Public Health, Emory University, Atlanta, GA, USA** (Prof B Druss MD)

Correspondence to:
Dr Claire Henderson, Health Service and Population Research Department, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London SE5 8AF, UK
Claire.1.Henderson@kcl.ac.uk

Introduction

The evidence that professionals working in all areas of health care including mental health stigmatise and discriminate against people with mental illness is increasingly compelling. Recent progress in two areas of research has re-emphasised the need to consider how stigma related to mental health manifests in health-care settings, and how to address it effectively. First, the specialty of stigma research increasingly encompasses exploration of what the people who are the targets of stigma perceive,[1] anticipate,[2,3] and directly experience[4–9] from various sources of stigma, and how they feel and respond accordingly.[5,10–12] Health care is one of the contexts in which this research is most actively developing.[5,13,14] The frequencies of discrimination reported by respondents to surveys in these studies range from 16%[9] to 44%[15] in a mental health-care setting and 17%[7,14] to 31%[15] in a physical health-care setting. Second, epidemiological research shows a mortality gap in people with severe mental illness in high-income countries of around 20 years for men and 15 years for women compared with the general population,[16,17] which puts mental illness at the top of the list of variables associated with physical health inequality. The conclusion that severe mental illness itself explains this mortality gap should be avoided; instead, the reasons for the mortality gap need to be investigated and addressed. We therefore extended the scope of this Review beyond mental health professionals and stigma[18,19] to include all types of health professional.

Stigma in a health-care context probably contributes to the disparity in life expectancy,[20] compared with the general population, but before this can be tackled effectively, careful consideration of what stigma means in health care is needed. We used a theoretical framework and separated mental health services from other health services, because the effect of stigma might vary in these contexts. We then addressed the questions: do mental health professionals stigmatise people using their services; and do other health-care professionals stigmatise people with mental illness? If health professionals do stigmatise people with mental illness, what are the effects on quality of mental health care and physical health care? We then considered the evidence that stigma and discrimination in the health-care context can be decreased. To focus this Review on health professionals, we excluded the literature in which health-care students were the only study group. Neither did we address the question of the extent to which stigma is a barrier to health professionals seeking help for their own mental illness.[21]

A framework for considering stigma in mental health care

In the context of service provision, it is useful to consider stigma as operating on three inter-related levels: structural, interpersonal, and intrapersonal.[22] Structural stigma refers to discriminatory social structures, policy, and legislation,[5,22] which contribute to health disparities for some populations, such as African Americans,[23] and to low quality care for elderly people.[24] In health care for people with mental illness, structural discrimination can be seen in the disparity between physical and mental health care provision that results in poor quality and scarce mental health services;[25] in the poor coverage of mental health education in university curricula for health professionals; in over-reliance on institutional care; and in limited reasonable adjustments[26] to ensure equal access to physical health care, such as longer appointment times or peer support. When the quality of health care varies across hospitals, people with mental illness might experience disproportionate access to low quality care.[27] Structural discrimination is an important part of the backdrop to encounters between health professionals and people with mental illness. For example, resource allocation might affect the culture of a health-care organisation, such that the investment in treatment of stigmatised groups (by decision makers such as commissioners of health services) sends a message to them that they are worth treating.[28]

Discrimination (eg, with respect to race) at the organisational level has been termed both institutional[29] and systemic.[30] The culture of an organisation has a role in shaping health professionals' knowledge levels and attitudes[31] and thus their interpersonal interactions with people with mental illness. Although such structural discrimination occurs worldwide,[25] the ways in which it is manifest are variable in the context of health-care delivery to people with mental illness, across countries, health-care systems, health-care provider organisations, and professional groups.

In this Review interpersonal stigma consists of problems of knowledge (ignorance or misinformation); attitudes (prejudice); and behaviour (discrimination, targeted violence and hostility, and human rights abuses).[32] Although health professionals generally have more knowledge of mental illness than does the general public, they might be affected by lack of knowledge related to stigma—eg, knowledge about specific disorders such as borderline personality disorder.[33] Attitudes of the public and of groups of health professionals to mental illness have been measured with various instruments to assess: emotional reactions to people with mental illness; endorsement of stereotypes;[34] opinions about civil rights[35] and restrictions such as the right to vote and stand for office;[36] or desire for social distance (the willingness to interact with a person in a survey in various social situations),[37] although the last is also used to assess behavioural intent. Notably, in consideration of behaviour in interpersonal stigma, the form discrimination takes depends partly on the relation between the source, and the target, of stigma.[38] Some behaviour that is deemed unfair treatment by mental health service users is common to other relationships (eg, an assumption that the person is not as competent as other adults or an assumption that the person is prone to violence), whereas other forms of unfair treatment are more specific to the role of health professionals. For example, participants in the Viewpoint study[39] described being ignored or made to wait longer for treatment; having their mental illness diagnosis disclosed in front of other patients; not being listened to regarding the nature of the problem; and not having adjustments made to allow them to access care (eg, being removed from the register of a general practitioner after missing appointments).

At the intrapersonal level, the effect of stigma, whether direct, the observed treatment of others, or through awareness of public attitudes, has been termed both self-stigma[40] and internalised stigma.[41] This form of stigma encompasses negative beliefs about the self, which are largely based on shame, the acceptance of mental illness stereotypes, a sense of alienation from others, and consequent low mood. The effect of stigma is negatively correlated with measures of empowerment[42] and can be conceived of as its opposite—ie, a state of disempowerment. Health professionals' behaviour might exacerbate or ameliorate self-stigma, because of the effect of interpersonal interactions on self-stigma.

What attitudes do mental health professionals have towards people using their services?

Professional experience

Table 1 summarises the studies identified by our search that address this question. The first studies of mental health professionals' attitudes came after recognition of the negative public response to deinstitutionalisation and community care. Calicchia[43,44] compared psychiatrists, psychologists, and social workers with each other, and against mental health students and a sample of non-mental-health professionals consisting of teachers, lawyers, and engineers. He used five dimensions to assess attitudes toward patients: perceived worth; dangerousness; effectiveness; comprehensibility; and the desire for social distance assessed with the social distance scale. Although the responses of mental health professionals to attitude measures were less negative than those of the non-mental-health professionals, they were more negative than those of mental health students in terms of perceived ineffectiveness and undesirability. Calicchia suggested that the results could be partly explained by the negative effects of professionals' training and by the effect of burnout.

Although Jorm and colleagues[45] do not discuss the possible effect of burnout on health professionals' attitudes, they also emphasise the negative effect of professional experience in their report on a survey comparing the attitudes of the Australian public and health professionals including general practitioners, psychiatrists, and psychologists. The authors point out that although health professionals' increased pessimism with respect to long-term patient outcomes and the likelihood of patients encountering discrimination might be due to greater knowledge than the general public, it might also be biased because of increased contact with people whose illnesses are long-term or recurrent. Jorm and colleagues[45] conclude that irrespective of the extent of bias held by health professionals, care is needed so as not to convey overly negative assumptions about potential outcomes to people with mental illnesses and their families.

Interestingly, little evidence shows negative effects of contact on attitudes of professional contact accumulate with time. Two studies[45,46] showed that older or more experienced health professionals have greater therapeutic optimism and show less negative stereotyping than younger or less experienced professionals. Another study[48] showed that nurses with 10–14 years' experience had the lowest desire for social distance compared with those of less, and more, experience. The reasons for this finding are not well understood. Selective dropout from mental health professions by

people who hold more pessimistic beliefs and negative stereotypes might be one reason. Another possibility is that with time professionals become more capable of preventing burnout, gain more observations of personal recovery in patients, or accumulate an increased level of personal and family experience of mental illness. An increase in personal experience of mental illness was also related to more positive attitudes and intended behaviour among the general public.[57,58] Professionals might also become accomplished at overriding stereotypes when these are activated, in favour of their personal beliefs. Rogers and Kashima[34] studied this

	Aim	Sampling strategy (N)	Type of professional and setting	Country	Assessment	Results	Limitations
Rogers and Kashima (1998)[34]	Identify differences between personal standards of general nurses, psychiatric nurses, and lay people with respect to how they should respond, and beliefs about how they would respond to patients with schizophrenia	Self-selected convenience sampling (91)	General nurses, psychiatric nurses, and lay people	Australia	Purpose written questionnaire; no vignettes	People reported that their actual responses would be more negative than their personal standards suggested they should be; lay people were more negative with respect to their affective responses	Psychiatric nurses were substantially older than the other two groups; during the course of the study an advertising campaign, aimed at educating people about mental illness, was initiated, which might have influenced participant responses
Magliano et al (2004)[35]	Compare the beliefs about schizophrenia in nurses, psychiatrists, and relatives of patients with this disorder	Nurses (190), psychiatrists (110), and relatives (709); convenience sample; 24 (5%) professionals of 489 and 41 (5·5%) families out of 750 did not participate	Nurses and psychiatrists who had been working in the service for at least 1 year in mental health centres	Italy	pattern of care schedule; questionnaire on the opinions about mental illness; questionnaire on the opinions about mental illness family version; questionnaire on the opinions about mental illness professional version; includes vignettes	Nurses (63%), relatives (71%), and psychiatrists (43%) thought patients should not get married; nurses (21%), relatives (49%) , and psychiatrists (7%) felt patients should not have children	None as stated by the authors of the study
Nordt et al (2006)[36]	Compare attitudes of mental health professionals and the general population towards mental illness	Random sample of the general public (1737); self-selected convenience sample of mental health professionals (1073)	Psychiatrists, nurses, vocational workers, social workers, physio-therapists, and psychologists working with psychiatric inpatients and outpatients	Switzerland	Questionnaire already being used in the public attitude survey in Switzerland; includes vignettes*	Psychiatrists had more negative stereotypes; mental health professionals accepted restrictions towards patients with mental illness three times less often than the general public; social distance towards patients with major depression and someone without mental illness lower than towards patients with schizophrenia	Low response rate of mental health professionals; unbalanced sample size; questionnaire was designed for the general public; the 5 years between public and professional surveys might have influenced results
Lauber et al (2004)[37]	Assess and compare experts' and lay people's attitudes toward community psychiatry, and social distance towards patients with mental illness	Purposive sample: psychiatrists (90), response rate 90%; general population (786) response rate 63%	Psychiatrists and the general population	Switzerland	Purpose written questionnaire; includes vignettes	Psychiatrists had significantly more positive attitudes than lay people; the level of social distance increased for both groups the more the situation described implied social closeness	Social desirability; social distance and attitudes should not be confused with interpersonal behaviour
Calicchia (1981)[43]	Compare the attitudes held by psychiatrists, psychologists, and social workers towards patients with previous mental illness (ie, previous use of pyschiatric services)	Random sample (87); response rate 58%	Psychiatrists, psychologists, and social workers	USA	Purpose written questionnaire; no vignettes	Participants held negative attitude towards people with previous mental illness; psychologists showed most benign attitudes	Small sample size; low response rate; social desirability bias
Calicchia (1981)[44]	Compare attitudes held by mental health professionals, non-mental health professionals, and students toward patients with previous mental illness	Random sample (180); response rate 59%	Mental health professionals, mental health students, and non-mental health professionals (teachers, lawyers)	USA	Purpose written questionnaire; no vignettes	Patients with previous mental illness perceived as dangerous, ineffective, mysterious, and undesirable; mental health groups showed less negative attitudes	Small sample size; low response rate; social desirability bias

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	Aim	Sampling strategy (N)	Type of professional and setting	Country	Assessment	Results	Limitations
(Continued from previous page)							
Jorm et al (1999)[45]	Compare the Australian public's attitudes with the attitudes of general practitioners, psychiatrists, and clinical psychologists towards people treated for a mental disorder	Self-selected convenience sample (2454); general practitioners (872), psychiatrists (1128), clinical psychologists (454); results compared with general public (2031), response rate 85%	General practitioners, psychiatrists, and clinical psychologists	Australia	Vignettes	Public and professionals rated outcomes as poorer and discrimination more likely for patients with schizophrenia; professionals had more negative attitudes than the public, but clinical psychologists had similar attitudes to the public about depression	Social desirability; questionnaire less suited to professionals; did not cover all relevant health professionals, notably mental health nurses
Lauber et al (2006)[46]	Assess stereotypes of people with mental illness in the attitudes of mental health professionals, compared with the general population	Convenience sample (1073); response rate 35%	Psychiatrists, nurses, vocational workers, social workers, physio-therapists, and psychologists working with psychiatric inpatients and outpatients	Switzerland	Questionnaire from previous opinion survey of a representative sample of the general population in Switzerland; includes vignettes*[47]	Mental health professionals felt most negative depictions as typifying of patients, and positive depictions, except highly skilled, as less typifying of patients; patients were stereotyped as dangerous by both groups; psychiatrists stigmatised patients more than did psychologists and nurses	Low response rate; tendency of participants to respond according to social desirability; holding of stereotypes should not be mistaken for interpersonal behaviour
Linden and Kavanagh (2012)[48]	Compare attitudes held by student and qualified mental health nurses towards patients with schizophrenia	Self-selected convenience sample; nurses (121), response rate 68%; students (66), response rate 63%	Mental health nurses and students	Republic of Ireland	CAMI; includes vignettes	Nurses in the community held more positive attitudes than students; nurses in an inpatient setting had the most socially restrictive attitudes	Social desirability, all respondents may have been biased toward positive attitudes
Loch et al (2013)[49]	Study the stigmatising attitudes towards those with mental illness in an understudied sociocultural setting and to examine how attitudes vary in these settings	Self-selected convenience sample of psychiatrists (1414); random stratified sampling of general population (1015)	Psychiatrists and the general population	Brazil	General population assessed with vignettes; psychiatrists assessed with purpose written questionnaire including previous attitude surveys	In the general population: male sex was linked to negative stereotyping and higher age was linked to social distance; in psychiatrists lower age was associated with negative stereotyping of patients; psychiatrists negatively stereotyped patients with schizophrenia	Psychiatrist sample not assured to be representative; different interview methods; response bias in face to face interviews
Morris et al (2012)[50]	To assess construct validity of the CAMI and European nurses' attitudes towards mental illness and patients in mental-health care	Convenience sample (858), response rate 69·3%	Registered nurses, psychiatric hospital wards, acute psychiatric units in general hospitals, and community-based facilities	Finland, Lithuania, England, Ireland, Italy, and Portugal	Original community attitudes towards the mentally ill scale and two modified versions of the scale; no vignettes	Further research recommended to develop valid and reliable tools to assess attitudes; modified version of the CAMI scale (Wolff and colleagues)[51] fits the data	Better representation of nurses in community and general hospital based psychiatric units would have improved the findings to better represent the diversity of mental health-care settings
Vibha et al (2008)[52]	Explore the attitudes of psychiatric ward attendants towards mental illness	Systematic sample; psychiatric attendants (100), general attendants (100) (carers of patients with mental illness as control)	Psychiatric ward attendants and general ward attendants in Central Institute of Psychiatry	India	Community attitudes towards mental illness; no vignettes	Psychiatric ward attendants had more positive attitudes than general attendants; older age, higher education, longer duration of contact with mentally ill patients predicted more favourable attitudes	None as stated by the authors of the study; response rate not provided
Gibb et al (2010)[53]	Examine attitudes towards patients who self-harm and the need for training about self-harm in health-care workers	Self-selected convenience sample; (195) response rate 64·4%	Medical or psychiatric staff working at two hospitals in Christchurch	New Zealand	Purpose written questionnaire including Maslach Burnout Inventory; no vignettes	Staff did not feel confident working with patients who self-harm; negative attitudes were associated with high levels of professional burnout	Low response rate; results might not generalise to other hospitals in other countries
Bell et al (2006)[54]	Compare the attitudes of pharmacy students and graduates towards patients with schizophrenia and severe depression	Self-selected convenience sample; pharmacy students (216); pharmacy graduates (232)	Pharmacy students and pharmacy graduates	Australia	Purpose written questionnaire including SDS; no vignettes	No significant difference between groups in stigmatisation of patients groups	Assessments do not necessarily reflect participants' competence to provide pharmaceutical services

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	Aim	Sampling strategy (N)	Type of professional and setting	Country	Assessment	Results	Limitations
(Continued from previous page)							
Ishige and Hayashi (2005)[55]	Examine the role of occupation and social experience as factors in determining the attitudes of care workers towards patients with schizophrenia	Self-selected convenience sample (786), 57·2% usable questionnaires	Psychiatric and public health nurses, non-psychiatric care workers	Japan	Scale developed by applying the SDS; social distancing measured using modified social rejection scale; no vignettes	Public health nurses had the most accepting attitudes; psychiatric nurses and local welfare commissioners ranked second and third in terms of affective acceptance	Results might be confounded by demographic, socioeconomic, and psychological properties of the participants
Schmetzer and Lafuze (2008)[56]†	Present a possible mechanism for increasing communication about psychiatric matters between physicians and families of patients with mental illness through a National Alliance on Mental Illness	Self-selected convenience sample (672)	Medical students and residents	USA	Purpose written questionnaire; no vignettes	NAMI presentation was more efficacious in junior freshman year rotation and first year resident experience than in freshman year	Lack of long-term follow-up; focus on students and residents in one centre; social desirability bias

All studies were cross sectional unless otherwise indicated. CAMI=Community attitudes to mental illness scale and social interaction scale. SDS=social distancing scale. *A vignette presents a hypothetical description of a person, to which research participants respond thereby revealing their attitudes. †Follow up study.

Table 1: **Do mental health professionals hold stigmatising attitudes towards patients using their services?**

process in general health and psychiatric nurses with respect to their responses to people with schizophrenia. Because stereotypes are established at an early age, this occurs before a person can critically appraise them and before the start of any professional training. Rogers and Kashima[34] showed that although general nurses, psychiatric nurses, and lay people all had personal beliefs about how to (felt they should) respond to someone with schizophrenia, the imagined actual (felt they would respond) response of psychiatric nurses was in greater accordance with their beliefs than that of the other study groups. When the controlled inhibition of automatic responses is learned, relative to professional training, is unknown. Another problem arising from this study is whether the cynicism, which is a component of burnout, encompasses the erosion of controlled inhibition, changes in personal beliefs, and the development of new negative attitudes.

By contrast, a survey[37] of psychiatrists (n=90) and the general population (n=786) in Switzerland postulated that mental health professionals should have more positive attitudes to people with mental illness than the general public, based on their high level of contact. In this hypothesis professional contact is assumed to have the same positive effect on attitudes to mental illness as does familiarity with mental illness through personal or family experience in the general public.[49,57] Although this hypothesis was true for attitudes toward community mental health care, the authors showed the desire for social distance did not differ between professionals and the general public, similar to Calicchia's[43] results. Subsequently a larger survey[36] of mental health professionals (n=1073) and the general public (n=1737) in Switzerland confirmed this result, showing that psychiatrists held more negative stereotypes of people with mental illness than either the general population or other mental health professionals.

Limitations to the evidence

Caution is needed in the interpretation of comparisons between health professionals and the general public. Professionals have complained that questions and responses in measures designed for the public are too imprecise for them to respond easily;[36] the validity of their use for professionals has been questioned;[50] and the extent of social desirability bias (the tendency of respondents to answer questions in a manner that will be viewed favourably by others; over-reporting positive attitudes and under-reporting undesirable attitudes) might be different in these two groups. Some researchers have suggested that mental health professionals' attitudes are affected less by social desirability bias than are those of the general public because they are more fixed,[48] making their attitudes seem relatively more negative. Also, some surveys have used different data collection methods for different groups such as face to face interviews with mental health professionals versus telephone interviews with members of the public;[49] this variation might increase the observed effect of social desirability bias in professionals. The comparative attitudes of mental health professionals and the general public toward people with mental illness differ dependent on how these attitudes are measured. Although measures of social distance show few differences between these two groups, health professionals consistently show less socially restrictive attitudes (except regarding coercion into treatment) and are more supportive of the civil rights of people with mental illness.[35,37,52]

Professional versus social contact

Consideration of why contact with people with mental illness in health-care contexts might not have the same effect on attitudes, as measured by the desire for social distance, as does personal or family experience is important. Professional burnout has been around as an explanation for discrimination in mental health care since 1981,[43,46] and components of burnout (high emotional exhaustion and low personal accomplishment) were shown to be significantly associated in general and psychiatric hospital professionals with negative attitudes toward patients who self-harm.[54] The type of contact that health professionals have with people with mental illness was shown not to decrease prejudice.[59,60] Disproportionate levels of contact with people with mental illness when they are most unwell and with people whose illness is severe and chronic might not challenge stereotypes, and the clinical encounter does not tend to provide equal status to professionals and service users.[54] Recognition of these negative attitudes has led to calls for training of both mental health professionals and other community-based health professionals,[54,55] such as contact with people with mental illness who are functioning successfully in the community (eg, as peer educators) and their family members.[56] Finally, whether a biomedical view of mental health illness might negatively affect at least some aspects of stigma is unclear; there is evidence from the general public that it does,[61] but this question might be harder to address in professional groups. Table 2 summarises the studies we identified that address this question.

Do attitudes of general health professionals differ from those of mental health professionals?

Many of the surveys mentioned compared mental health professionals' attitudes with those of general hospital professionals, general practitioners, or medical students. Compared with psychiatrists (but not psychologists), general practitioners in Australia were more optimistic about treatment outcome,[45] but both groups of doctors had greater optimism with increasing age. The decreased stigmatisation of patients by mental health professionals with increasing experience[46] was shown in surveys that compared medical students' attitudes with those of hospital doctors, in London,[62] Lahore,[63] and Colombo,[64] and in nurses in Sweden.[65] In these studies,[60–65] people people with alcohol or drug addiction were stigmatised compared with people with schizophrenia, depression, panic disorder, and dementia. The same was shown in another survey[66] comparing primary care professionals' attitudes toward substance misuse with those of mental health professionals. Sri Lankan doctors' attitudes toward people with schizophrenia were less stigmatising than the attitudes of doctors in the UK. [64,66] Psychiatric nurses' attitudes are more positive than are those of general nurses,[34,65] and a study[67] in Japan showed the same for psychiatrists versus physicians.

Health professionals' attitudes towards patients with physical versus mental illness

Fewer studies have examined the effect of patients' mental illness on health professionals' attitudes compared with a physical illness, even though this comparison closely addresses whether discrimination is more likely to occur in the general health-care setting. Minas and colleagues[68] showed that in Malaysian hospital professionals, stigmatising attitudes towards people with mental illness were common. Respondents to a mental illness vignette scored significantly lower on ratings for care and support and higher on ratings for avoidance and negative stereotype expectations compared with respondents to a diabetes vignette. Unlike other health professionals, for whom ratings of care and support were inversely correlated with avoidance of patients, nurses' ratings showed a positive correlation between care and support, and avoidance. The authors suggest nurses have conflicted emotions, such that they feel people with schizophrenia should get extra support for physical health needs but that they also have a desire to avoid them. Another vignette survey[69] of medical residents in France showed that not only did the diagnosis of a psychiatric condition increase a desire for social distance, but also unease at the examination of the person in the emergency setting.

What are the effects of stigma on the quality of mental health care?

Surveys of mental health professionals' attitudes, and assessments of training interventions are done under the assumption of a relation between attitudes and behaviour and do not measure behavioural outcomes. Few studies in our search strategy measured behavioural outcomes. In 1965, Ellsworth[71] did surveys of psychiatric inpatients, and the nurses and aides working with them after screening the patients for their ability to recognise the professionals. He found that restrictive attitudes, measured using the Opinions about Mental Illness Survey[72] and the Staff Opinion Survey, were associated with patients' reports of controlling and restrictive behaviour by professionals. Questionnaire statements contributing to the measurement of restrictive attitudes included but were not limited to contact between patients of the opposite sex; contact between patients and children; implementation of procedures for going on leave; and patients keeping their personal possessions while in hospital. Protective benevolence (defined by the authors as professionals who endorse kindness to patients) in health professionals was associated with patients' reporting aloofness, distance, and dishonesty in their behaviour (eg, promising something to a patient when they are disturbed and then not keeping this promise). Professionals who scored high for protective benevolence thought that it was better to avoid patients when they were upset in case of making the situation worse; and that being honest with patients could hurt their feelings. This protective benevolence was experienced by some patients as being treated like a child, and with a lack

of respect or honesty. Rejection of both protective benevolence and restrictive control by professionals contributed to a factor termed "non-traditional" by Ellsworth.[71] Professionals scoring high for non-traditional were perceived by patients as: "sensitive and understanding"; "dependable and reliable"; "open and honest"; and "gives advice freely".

This study[71] shows how negative attitudes can result in different discriminatory behaviours, although often present in the same professionals. Avoidance and rejection of patients can occur when health professionals find patients difficult to treat. In mental health services, most attention has been paid to people with borderline personality disorder in this respect. The term malignant alienation was coined in 1979[73] to describe the process whereby therapeutic relationships broke down leading to rejection of the patient by professionals including discharge from care, thus increasing the risk of suicide. This rejection of the patient can be understood in psychodynamic terms as acting out of a countertransference (ie, the therapist's emotional reaction to the patient).[74] Differential treatment of people with borderline personality disorder by selective discharge, and through negative interactions,[75] also constitutes discrimination, and is experienced as such by people given this diagnosis, who describe feeling excluded from mental health care on the basis that professionals are unable to or do not wish to help.[76,77] Psychiatric nurses describe feeling fear of the consequences of self-harm; frustration at what they feel is manipulative behaviour on the part of patients; lack of support from other colleagues; anger; and insufficient knowledge on their own part.[78,79]

A qualitative study[5] of patients with schizophrenia identified encounters with mental health professionals, which they felt to be discriminatory. They expressed feeling rejected by health professionals focusing on diagnostic tests, which they experienced as little interest in their person and focus on their symptoms. Furthermore, they felt there was only one standard psychiatric treatment for everyone that revolved around drugs and about which they were given insufficient information. Coercive measures and professionals' therapeutic pessimism were also experienced by patients as discriminatory. Additionally, undesired effects of psychotropic drugs, such as extrapyramidal symptoms and weight gain, were described by service users as having a negative effect on their social relationships by making their disorder visible to others, and thus they felt, involuntarily "outing" their mental health status.

The medical literature on recovery from mental illness is another source of information about behaviours by mental health professionals that service users find discriminatory and that create barriers to personal recovery. One of these is overprotectiveness, which is described as generally hampering positive risk-taking to allow personal development,[80] and specifically results in under-referral to vocational services[81] and to research. In a survey[82] of clinical studies officers, who assist with clinical research in the UK National Health Service, many described clinicians as paternalistic, and suggested they undermine the autonomy of service users by preventing their participation in research by screening them out of lists of eligible service users, or by not informing them about the research. Other barriers to recovery from mental illness identified include an emphasis on risk reduction and low expectations by professionals, reflective of the social restrictiveness and therapeutic pessimism captured by attitude surveys. According to our theoretical framework, the behaviour of health professionals that suggests a socially restrictive attitude might reflect organisational culture and structural stigma. For example, when mental health policy emphasises risk reduction or mental health care is provided in institutions.

Does stigma affect the quality of physical health care?

Quality of care

Studies[83] show that people with mental illness and substance misuse disorders receive lower quality treatment for various physical illnesses including cardiovascular disease, diabetes, HIV, hepatitis, and cancer than do people without mental illness. Less is known about the role stigma has in the decreased quality of care. Corrigan and colleagues[84] showed a correlation between attitudes and treatment intentions in mental health and primary care professionals working for the US Veterans Health Administration. Path analyses showed participants who endorsed stigmatising characteristics of a patient with schizophrenia described in a vignette were more likely to believe he would not adhere to treatment; as a result, they were less likely to refer the patient to a specialist or to refill their prescription.[84]

Evidence from the USA shows family physicians are less likely to believe that patients with previous episodes of depression have serious medical disorders causing physical symptoms, which leads to increased reluctance to initiate investigations of underlying disease based on symptoms.[85] This reluctance might reflect the misattribution of physical symptoms to pre-existing mental illness,[13] known as diagnostic overshadowing.[86] A study[87] using qualitative interviews of emergency department nurses and doctors showed that this reluctance is a fairly well recognised problem that can lead to adverse consequences from delay in treatment to death. Some of the professionals interviewed also reported that they avoid people who have symptoms of mental illness owing to their fear of violence, which might also adversely affect the quality of care for these patients.[87] The fear of patients with substance misuse disorders has been expressed by district nurses, the consequence is a risk of suboptimum care.[88]

Self-harm and borderline personality disorder

Much of the evidence for decreased stigmatisation by health professionals comes from assessment of their

	Aim	Design	Sampling strategy (N)	Type of professional and setting	Country	Assessment	Results	Limitations
Mukherjee et al (2002)[62]	Study the attitudes and opinions of doctors and medical students with regard to psychiatric illness	Cross-sectional	Self-selected convenience sample; medical students (520)	Medical students and doctors in a teaching hospital in London, UK	UK	Scale used by Crisp et al (2000);[1] no vignettes	More than 50% felt patients with schizophrenia, and drug and alcohol addiction were dangerous, unpredictable; most felt patients were not to blame for condition	Questions highlighted some points—eg, whether patients were in the acute phase which could have led to confusion and ambiguity
Naeem et al (2006)[63]	Assess the attitudes of medical students and doctors	Cross-sectional	Self-selected convenience sample (294); response rate 59%	Medical students and doctors	Pakistan	Purpose written questionnaire including items from a survey developed by Crisp et al (2000);[1] no vignettes	Negative attitudes toward schizophrenia, alcohol and drug problems; considered patients dangerous, unpredictable; doctors less negative towards mental illness	Unable to include doctors with more than 10 years' experience owing to low numbers
Fernando et al (2009)[64]	Examine negative attitudes towards mental illness by Sri Lankan doctors and medical students and compare with equivalent UK and other international data	Cross-sectional	Self-selected convenience sample; medical students (574), response rate 54%; doctors (72), response rate 36%	Medical students in the University of Colombo, doctors working in surgical and medical specialties in the National Hospital of Sri Lanka	Sri Lanka	Based on scales in Crisp et al (2000)[1] and Mukherjee et al, (2002);[62] no vignettes	More stigmatisation of patients with depression, alcohol, and drug addiction compared with UK; patients with schizophrenia less stigmatised; students had more negative attitudes	Majority of the participants had limited medical experience so might not be generalisable; social desirability
Bjorkman et al (2008)[65]	Investigate attitudes towards mental illness and people with mental illness in nursing staff working in psychiatric or somatic care	Cross-sectional	Self-selected convenience sample (120); response rate 80%	Nurses and assistant nurses	Sweden	Modified, translated form of the Level of Familiarity Questionnaire; no vignettes	Negative attitudes, towards patients with schizophrenia; more negative attitudes in nurses in somatic care, younger nurses, and nurses with less professional experience	In some cases the significant differences are only small differences between subgroups
Gilchrist et al (2011)[66]	Compare regard for working with different patient groups between different professional groups in different health-care settings	Multicentre cross-sectional comparative	Random samples in five countries (866); convenience samples in three countries; and samples of professionals in eight countries	Physicians, general and psychiatric nurses, psychiatrists, psychologists, and social workers; general psychiatrists, and addiction services	Bulgaria, Greece, Italy, Poland, Scotland, Slovakia, Slovenia, and Spain	MCRS; no vignettes	Regard for working with alcohol and drug users was consistently lower than for working with other patient groups (such as with diabetes or depression) across all countries	Convenience sample decreased generalisability; selection bias; small sample of psychiatrists, psychologists, and social workers decreased statistical power; MCRS might not be applicable to all professions
Hori et al (2011)[67]	Investigate whether the attitudes toward schizophrenia differ between the general public and health-care professionals	Cross-sectional	Self-selected convenience sample (445; 450 approached, five excluded); included general population, psychiatric staff, physicians, and psychiatrists	Psychiatric staff, psychiatrists, and physicians	Japan	Purpose written questionnaire with use of some items from questionnaire previously published; no vignette	Psychiatrists scored lower for stigma and were least negative towards schizophrenia; general population and physicians were equally stigmatising	Some respondents may have supplied false information; few psychiatrists enrolled, risk of type II errors; gender distribution unbalanced
Minas et al (2011)[68]	Examine whether attitudes of hospital staff towards patients with mental illness are associated with different attitudes than towards a patient with diabetes	Cross-sectional	Convenience sample; diabetes vignette (298) and mental illness vignette (356); response rate 67·8%	General hospital health professionals (doctors, nurses, paramedics) in a large university general hospital	Malaysia	Questionnaire using vignettes and includes items adapted from the Opinions about Mental Illness Scale	Mental illness vignette showed low ratings for care and support, high ratings for avoidance and negative stereotype expectations	Convenience sample difficult to generalise results; social desirability bias
Neauport et al (2012)[69]	Investigate the effect of a psychiatric label on the attitudes of medical residents towards an individual	Cross-sectional	All of target population, random allocation (322); response rate 47·4%	Medical residents of all specialties in a university hospital	France	Two vignettes were created and a modified version of the Social Distance Scale	Residents allocated to the psychiatric-diagnostic label group were less at ease with becoming the individual's next door neighbour and working in the same place	Presentation in the emergency department might have altered residents' responses because this occurrence might indicate a more serious psychiatric disorder

(Table 2 continues on next page)

	Study aim	Study design	Total sample size and sampling strategy	Type(s) of professional, setting and country	Country	Measure	Results	Limitations
(Continued from previous page)								
Bander et al 1987[70]	To examine differences in attitude, knowledge, and treatment of alcoholism among physicians in three different specialties	Cross-sectional	Self-selected convenience sample (202); response rate 53%	Full and part time physicians working in the medicine, surgery, and psychiatry departments in a tertiary care teaching hospital	USA	Questionnaire with vignettes	Overall negative perceptions of alcoholics' personality; psychiatrists held the most positive views toward treatability, and the most negative views toward personality; whereas surgeons held the most positive views of personality and the most negative views of treatability	Low response rate; social desirability bias

MRCS=Medical Condition Regard Scale.

Table 2: **Studies assessing whether health professionals hold stigmatising attitudes towards people with mental health disorders**

training to improve mental health and general medical professionals' attitudes to people who self-harm, and with borderline personality disorder, whom they find particularly difficult to treat (table 3). Commons Treloar and Lewis[89] point out that this is partly because the medical model used does not provide the knowledge and skills that professionals need to treat people with these difficulties. An assessment[89] of training to improve attitudes to people who self-harm and to people with borderline personality disorder showed psychologists had more positive attitudes than doctors and nurses, but their attitudes showed no association with having had specific training, whereas the attitudes of doctors and nurses were more positive if they had received training. This association was shown in Belgium[90] and is consistent with several assessments of training.[91–95] One study[93] included a 6 month follow-up showing little if any decrease in the improvement of attitudes in mental health professionals. Training might be differentially effective in professional groups; another study showed that improvements in attitudes were only seen in female health professionals and in those with less than 15 years' experience.[94] The authors suggest that women's greater empathy, and entrenched attitudes in those with more than 15 years' experience, might explain these differences.

Substance misuse

A systematic review[107] of stigmatisation by health professionals of people with substance misuse disorders showed evidence for a positive effect of supportive organisational factors such as supervision and training policies on professionals' attitudes to working with these patients. We identified a few intervention studies[96,108] aimed at the improvement of health professionals' knowledge, attitudes, and behaviour towards people with substance misuse disorders. One randomised study[108] of acceptance and commitment therapy (used to teach experiential acceptance, cognitive defusion, mindfulness, and values clarification to decrease the effect of negative thoughts and feelings; for instance, their believability, behaviour in response to them) in comparison with multicultural training for substance misuse counsellors showed that acceptance and commitment therapy was more effective at 3 months' follow-up, decreasing both stigmatisation of patients and burnout. Another study[96] of advanced training in drug misuse for general practitioners, showed improved knowledge, attitudes, and prescribing confidence, and greater involvement in the treatment of drug misusers than in those on the waiting list for training. The authors of this study point out this group was self-selected, wanted training, and already had positive attitudes towards drug misusers. A 1987 survey[70] provides grounds for optimism that stereotypes can change over time. Although professionals' attitudes in the 1980s showed substantial room for improvement, they did not endorse the view that people with alcohol dependence were easily recognisable as homeless people; this had formerly been the perception, which precluded early recognition and treatment.

Interventions to decrease stigma in mental illness

Apart from studies about people with specific diagnoses, we identified two on mental illness. Both used internet-based interventions. In one study[109] psychiatrists in Turkey were randomly assigned to receive an instructional email about stigma; controls received a questionnaire on social distance. The intervention group had significantly lower scores for social distance than the control group. No baseline assessment was done, however, and the response rate was 41 (22%) of 205, and there was a risk of social desirability bias. Another randomised study[97] provided internet-based education on mental illness to professionals working in long-term care facilities in the USA. After adjustment for pretest scores, significant positive differences were found for all outcomes including measures of knowledge, attitudes (stereotype endorsement), empathy, self-efficacy, and intentions.

	Aim	Design	Sampling strategy (N)	Type of professional and setting	Country	Measure	Intervention	Follow-up	Results	Limitations
Commons Treloar et al (2008)[89]	Assess attitudes of mental health and emergency medicine clinicians towards patients with BPD	Survey	Self-selected convenience sample (40); response rate postal 89·4%, face to face 92·3%	Mental health staff and emergency department staff	Australia and New Zealand	Attitude Towards Deliberate Self-Harm Questionnaire; no vignettes	None	None	Mental health clinicians had significantly more positive attitudes toward borderline peronsality disorder compared with emergency medicine clinicians; allied health professionals had significantly more positive attitudes toward borderline personality disorder than nursing or medical staff	Self-selected convenience sample; might be unable to generalise results
Muehlenkamp et al (2013)[90]	Assess association between self-injury training and attitudes across different health care professionals	Cross-sectional	Self-selected convenience sample (342)	Psychologists, social workers, psychiatric and medical nurses in general and psychiatric hospitals	Belgium	Purpose written questionnaire; no vignettes	Educational; self-injury training	None	Professionals with training had more positive empathy, less negative attitudes; mental health providers had more positive attitudes than medical professionals	Information on type of training received was not assessed, unclear what type of training is most useful in promoting positive attitudes
Miller and Davenport (1996)[91]	Assess the effect of self-instructional programme on nurses' attitudes toward patients with borderline personality disorder	Controlled follow up	Convenience sample (32)	Registered nurses; acute adult inpatient psychiatric units, and general community hospitals	USA	Borderline personality disorder questionnaire (unpublished); no vignettes	Educational; self-paced programmed module booklet; three sections, each taking 30 min to complete	After intervention	Significant differences between groups in knowledge of, and attitudes toward, patients with borderline personality disorder	Non-randomised; low reliability in measuring behavioural intention
Shanks et al (2011)[92]	Assess the effect of education on attitudes toward patients with bordeline personality disorder	Follow up study	Convenience sample (271)	Social workers, mental health counsellors, psychologists, psychiatrists, nurses, physician assistants, and substance misuse counsellors	USA	Purpose written questionnaire; no vignettes	Educational; 1 day workshop; involved formal didactics, video presentations, and case examples	After intervention	Clinicians reported greater empathy towards patients with borderline personality disorder; greater awareness; feeling of increased competency; improved attitudes toward patients with borderline personality disorder and their desire to work with them; significantly less likely to express dislike for patients with borderline personality disorder	Participants self-selected; no comparison group; no information as to whether change in attitudes leads to change in outcomes for patients with borderline personality disorder
Krawitz et al (2004)[93]	Assess the effect of training workshop on clinician attitudes to people with bordeline personality disorder	Follow up study	Non-convenience sample (418); delivered to 910; 241 excluded; 251 lost to follow-up	Nurses, psychologists, social workers, occupational therapists, doctors; mental health and substance misuse services	Australia	Purpose written questionnaire; no vignettes	Educational; 2 day training workshop	After intervention; 6 months	After workshop: significant improvement in all six items of questionnaire; 6 month follow up: score remained the same or showed non-significant decrease	Survey questions not tested for reliability and validity; selection bias
Commons Treloar and Lewis (2008)[94]	Assess the effect of education on attitudes of health care professionals towards working with patients exhibiting deliberate self-harm behaviour	Controlled follow up	Self-selected convenience sample (99); response rate 13·39–42·42%	Nurses, doctors, and allied health professionals	Australia and New Zealand	Attitude Towards Deliberate Self-Harm Questionnaire; no vignettes	"Educational package" on dealing with borderline personality disorder; 2 days	After intervention	Significant improvement in clinician attitude ratings towards working with deliberate self-harm behaviours in patients with borderline personality disorder	Small sample size; no long-term follow-up
Samuelsson et al (2002)[95]	Assess the effect of training programme on psychiatric nursing personnel attitudes toward patients who attempted suicide	Follow up study	Convenience sample (47)	Psychiatric nurses	Sweden	Purpose written questionnaire; includes vignettes	Educational; 12 class sessions (36 h total)	After intervention	Nurses had increased understanding and willingness to care; suicide risk of patients in case vignettes was estimated more accurately	Limited number of participants; no matched control group

(Table 3 continues on next page)

	Aim	Design	Sampling strategy (N)	Type of professional and setting	Country	Assessment	Intervention	Follow-up	Results	Limitations
(Continued from previous page)										
Strang et al (2007)[96]	To measure changes in knowledge, attitudes, and practice of family doctors enrolled for training in the management of drug misusers	Randomised controlled trial	Original population–137 (112)	General practitioners working in primary care practices	England	Drug and Drug Problems Perceptions Questionnaire, Drug Problems Occupationally Perceived Questionnaire, and other questionnaires	Educational; certificate course; 5 training days for 6 months	After intervention	Improvements in attitudes and behaviour greatest in intervention group; only "role security" and "situational constraint" significant	None stated by the authors
Irvine et al (2012)[97]	Assess "Caring Skills: Working with Mental Illness"	Randomised controlled trial	91% completed all three surveys (172)	Carers in nursing homes	USA	Video situational testing, purpose written questionnaire, attribution questionnaire; no vignettes	Educational; internet based training programme; each course 10–30 min	2, 4, and 8 weeks after intervention	Significant group differences in self-efficacy, knowledge, attitudes, intentions, empathy; training effects were maintained throughout follow-up	Relied on self-report; self-identified as having limited mental illness training and lacking confidence—might not be representative
Livingston et al (2011)[98]	Provide a systematic review of existing research that has empirically assessed interventions designed to decrease stigma related to substance use disorders	Systematic review	Papers identified from 7 databases, reference lists, consulting experts; 13 papers, sample sizes from 28–445 (median 108)	Medical students, drug and alcohol counsellors, and psychiatrists	USA, UK, Canada, and Australia	Study quality appraisal checklist, Hedges' *g* effect size; standardised stigma-related measures were used in 11 (85%) studies	10 educational-based, two involved contact education, and one involved plastic surgery for intravenous drug users	Three studies (23%) assessed stigma beyond the immediate post-intervention period	All but one study indicated that their intervention produced a positive effect	Adverse events not measured or reported; no masking of assessors or participants; power calculation not done; few studies; heterogeneity across studies
Chinnaya et al (1990)[99]	Assess how training in mental health care can change primary care paramedical health workers' attitudes toward mental health	Follow up study	Method of rectruitment and response rate unclear (150)	Paramedical health workers	India	35 item questionnaire developed for a previous study	Educational intervention with role plays; 1 week residential course	After intervention	Significant change in the attitudes to items; low frequency of desirable responses in the pre-course questionnaire	Small sample size; social desirability, especially after the course
Cosgray et al (1990)[100]	Can a simulation game called, "A Day in the Life of an Inpatient" influence in a positive way the attitudes of the staff	Follow up study	Method of rectruitment and response rate unclear (800)	Admission clerks, psychologists, ward attendants, and nurses	USA	A semi-structured session includes a 45 min debriefing and brainstorm about, "What does this mean for us as staff?" then a questionnaire 3 months later (no details on this)	Simulation game called "A Day in the Life of an Inpatient", 1 day	After intervention and at 3 months	3 months after playing the game, staff were more observant of patients and more likely to try to communicate and interact with patients; staff with less patient contact reported greater appreciation for the difficult role of the direct-care staff	Social desirability; different measure used directly after intervention and at 3 months so difficult to make a direct comparison
Gerace et al (1995)[101]	Investigate whether an educational intervention improved practising nurses' recognition of, and responses to, patients with substance-misuse	Follow up study	Self-selected convenience sample (32)	General health nurses	USA	Substance Abuse Knowledge Survey; Substance Abuse Experience Survey; and SAAS; no vignettes	Educational; 2 full-day workshops, 1 week apart, every year for 3 years	After intervention completion of five workshops, 3 years apart	Clinical confidence ratings of the nurses increased significantly in relation to both alcohol-related and drug-related clinical skills; attitude changes were reflected in the responses to only one subscale of the SAAS: treatment optimism	Nurses enrolled had to volunteer to take part; only quantitative data

(Table 3 continues on next page)

	Aim	Design	Sampling strategy (N)	Type of professional and setting	Country	Assessment	Intervention	Follow-up	Results	Limitations
(Continued from previous page)										
Graham et al (2010)[102]	Assess whether changes occurred in the trainees' confidence, mental health literacy, attitudes towards effective treatments, mental health knowledge and skills, and community mental health ideology after Mental Health Aptitudes in Practice training	Follow up study	Self-selected convenience sample (876); response rate 77·8%	Health and social care workers; police, and youth workers within and outside school settings	Australia	Purpose written questionnaire; no vignettes	Educational; the Mental Health Aptitudes into Practice training package; 6 months duration	After intervention, at 6 months, and at 12 months	After training, participants had more confidence and less desire for social distance; participants' knowledge and skills in relation to the treatment of mental health disorders increased; these changes were seen immediately after training; the limited existing evidence suggests these changes are sustained up to 6 and 12 months	No control group; trainee attrition
Happell and Taylor (2001)[103]	Investigate whether access to liaison services from a specialist drug and alcohol unit leads to a change in attitudes, confidence, and perceived knowledge related to the care of patients with drug and alcohol problems	Cross-sectional	Self-selected convenience sample (106); response rate 53%	General hospital nurses working in a large, private medical-surgical hospital in Melbourne	Australia	Purpose written questionnaire; no vignettes	Access to liaison drug and alcohol service	After intervention	The groups who used the drug and alcohol liaison service differed very little from those who did not use the drug and alcohol liaison service with the exception of the perceived knowledge category, which indicated a significant difference	Only done in one hospital; low sample size; low response rate to some questions
Patterson et al (2007)[104]	Test the effectiveness of an educational intervention aimed at changing attitudes to self-harm	Controlled follow-up study	Self-selected convenience sample; intervention group (69); control group (22)	Nurses	UK	Self-Harm Antipathy scale	Educational; course titled Understanding and Managing Self Harm and Suicide; 12 days	After intervention and at 18 months –4 years	20% decrease in antipathy towards self-harm in course attendees maintained for at least 18 months compared with a 9% decrease in the comparison group	Not randomised; social desirability bias
Shirazi et al (2009)[105]	Assess the effect of an educational intervention on depression in family doctors in Iran	Randomised controlled trial and questionnaire	Random-isation ; intervention group (96); control group (96)	Family doctors	Iran	Two purpose written questionnaires; included vignettes	Educational; 8 h course	After intervention	Knowledge and attitudes improved in the intervention group compared with the control group	High rate of attrition
Wang et al (2012)[106]	Assess whether non-psychiatric physicians would benefit from a national depression training programme	Follow up study	Self-selected convenience sample (375); response rate 72%;	Physicians	China	Depression Attitude Questionnaire and adapted Intention to Change Depression Management Practices; no vignettes	Educational; 2 day course	After intervention	Physicians showed significantly increased knowledge score and willingness to implement new treatment strategies, and more positive attitudes toward, and confidence in, treating depression	No control group; social desirability bias

SAAS=Substance Abuse Attitude Scale.

Table 3: **Studies assessing whether stigma and discrimination can be decreased in a health-care context**

Although training for health professionals might address stereotypes or attitudes toward patients with mental illness[105,106] we identified only one study of an antistigma intervention for health professionals that was for paramedical health workers at primary health-care centres in India;[99] attitudes showed improvement immediately after the course. Modgill and colleagues[110] developed the Opening Minds Stigma Scale for health-care providers to assess the effect of 37 contact-based education projects, done as part of Canada's Opening Minds antistigma programme; this study is ongoing.

Conclusions

In view of our framework, clearly very few studies address more than one level of stigma, and almost all focus on interpersonal stigma. We suggest that future work should address all three levels of stigma and the relations between them. We postulate that organisational culture and structural stigma might moderate the effectiveness and durability of any effects of interventions directed solely at health professionals to decrease stigmatisation of patients, and suggest the need for long-term or recurrent interventions and interventions targeted at structural and organisational levels. For example, reasonable adjustments for people with mental illness by organisations to promote equal access to physical health care are likely to necessitate organisational change and funding. Although organisational level interventions might be studied with cluster randomised trials, quasi-experimental designs are needed to evaluate national level interventions,[111] changes to legislation,[112] or changes in national policy, such as redistribution of funding from physical to mental health care, or changes to the training mandated by professional regulatory bodies.

For interpersonal stigma, our findings suggest that mental health professionals, early career professionals, men, and professionals with burnout are particularly in need of interventions to decrease their stigmatisation of patients. The use of contact interventions in Canada[110] is based on meta-analyses of interventions in other groups,[113] and the authors suggest that professional contact, although associated with improved attitudes in terms of civil rights, does not decrease stigmatisation generally. The evidence for contact interventions is limited to effects on professionals' knowledge and attitudes rather than behaviour, and follow-up periods tend to be short.[114] The same limitations apply to many studies of education and training for professionals to decrease stigma towards people who self-harm or have borderline personality disorder or substance misuse disorders. Nevertheless, the results of educational interventions should not be ignored because they suggest that education might be an effective strategy to target health professionals who have had little training in mental health. Apart from the direct effect of improved knowledge on health professionals' attitudes an indirect effect might occur through increased confidence and skills to treat people with mental illness. A more positive interaction with the patient could result so that they are no longer perceived as difficult to treat. A combination of both education and contact with patients is not difficult and should be considered as an intervention. Finally, the study[108] on acceptance and commitment therapy suggests that interventions to prevent and decrease professional burnout should be explored for their potential to decrease the enactment of stigma in health care.

Whether service users can affect changes in professionals' attitudes, or structural discrimination, is unknown. Current anecdotal evidence for such processes suggests further study in this area is needed. [115,116]

Irrespective of the type of intervention and research design, it will be important to use measures of the quality of mental and physical health care such as discrimination rated by service users to evaluate studies on interventions to reduce stigma in health care. Such measures could also be used for routine audit of mental and physical health care for people with mental illness.

The paucity of intervention studies besides training to improve health professionals' attitudes toward people with specific diagnoses might reflect the limitations of our search strategy. Studies on professionals' attitudes to service users that might be relevant but that do not address stigma were excluded. Our search strategy excluded some surveys from non-western countries,

Search strategy and selection criteria

We searched Medline, PsychINFO, CINAHL, AMED, and the Social Science Citation Index databases to identify full-text, peer-reviewed, data-based studies and reviews (editorials and opinion pieces were excluded). Articles in any language were included from Jan 1, 1980 to April 9, 2014. Articles were included that we judged to represent health-care professionals' (counsellors were excluded) attitudes or opinions towards, or stigmatisation of, individuals with mental health disorders (dementia, developmental disorders, and learning disabilities were excluded). Any study design was included, but required a comparison of health professionals and mental health professionals and the general public or health-care students, or a comparison of the attitudes of health professionals towards individuals with mental health disorders and those without.

We searched terms covering all relevant types of health professional such as doctor*, or clinician*, or psychiatrist*, or health*, provider*, or nurs* to within 5 words of a stigma term, such as stigma*, or stereotyp*, or discrimination or prejudi*, or social distanc*, or disrespect*, or under treatment, or diagnostic overshadow*, or attitud*, and mental health terms such as mental disorder*, or mental health, or mental* ill*, or psychiat*, or psychological disorder, or terms relating to specific disorders. We checked reference lists of included papers and of reviews on mental-health stigma by our group and by others.

which means that we are not able to address whether professionals' stigma differs in high-income and low-income regions or in other parts of the world. The medical literature shows attention is being paid to the problem of stigma in health care, but the implementation of training or other interventions might be difficult in view of professionals' time constraints and different priorities. Disparities in mortality and health in people with mental illness and their negative experiences of physical and mental health care described in this Review underscore the need for leaders within all health professions and health-care organisations to prioritise intervention at all levels, using the available evidence.

Contributors

CH had input into the research questions, advised on the search strategy and selection criteria and on inclusion of papers for which there was uncertainty, wrote the first draft of the manuscript, and revised the Review after contributions from coauthors. JN had input to the research questions and to the search strategy and selection criteria, implemented the original search strategy and did the search after revisions, drafted tables 1 and 2, and edited the manuscript. HP had input to the research questions and into the search strategy and selection criteria; implemented the original search strategy and did the search after revisions, drafted table 3, and edited the manuscript. SC contributed to the formulation of the research questions and inclusion criteria, and development of the search strategy, and critically revised the first and final drafts of the Review and tables. AC reviewed articles identified through the search strategy for inclusion, or exclusion, and reviewed the manuscript. OG-G reviewed articles identified through the search strategy for inclusion, or exclusion, and reviewed the manuscript. BS wrote a paragraph on stigma experiences of service users in mental health care, contributed to the literature search, provided references, and commented on several drafts of the Review. BD reviewed, provided comments, and input to the Review. GT wrote the first draft of the summary, reviewed, and provided comments on the Review.

Declaration of interests

We declare no competing interests.

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