The African Guide: One Year Impact and Outcomes from the Implementation of a School Mental Health Literacy Curriculum Resource in Tanzania

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Abstract

Despite the need for improving mental health literacy (MHL) among young people in low- and middle-income countries little research is available. Schools are an ideal location in which to address mental health literacy. A Canadian school-based mental health literacy resource was adapted for application in sub-Saharan Africa called the African Guide (AG). The AG is a classroom ready curriculum resource addressing all aspects of mental health literacy. Herein we provide teacher reported activity impacts and MHL outcomes from the implementation of the AG in Tanzania. Following training, survey data addressing teacher reported AG impact and MHL outcomes was collected at three time points over a one year period. Over a period of one year, 32 teachers from 29 different schools reported that over: 4,600 students were taught MHL; 150 peer teachers were trained on the AG; 390 students approached teachers with a mental health concern; 450 students were referred to previously trained community care providers for diagnosis and treatment of Depression; and most students were considered to have demonstrated improved or very much improved knowledge, attitudes and help-seeking efficacy, with similar outcomes reported for teachers. Results of this study demonstrate a substantial positive impact on MHL related activities and outcomes for both students and teachers using the AG resource in Tanzania. Taken together with previously published research on enhancing MHL in both Malawi and Tanzania, if replicated in another setting, these results will provide additional support for the scale up of this intervention across sub-Saharan Africa.

Keywords: school mental health, Tanzania, adolescents, teachers, mental health, Africa, depression

1. Introduction

Mental health literacy is a complex construct that addresses four separate but integrated components. These are: how to obtain and maintain good mental health; understanding mental disorders and their treatments; decreasing stigma related to mental disorders; enhancing help-seeking efficacy (knowing when and where to seek help for a mental disorder and improving one's own self-managed mental health care) (Kutcher, Bagnell, & Wei, 2015; Kutcher, Wei, & Coniglio, 2016; Kutcher, et al., 2016; Kutcher, Wei, & Hashish, 2016). Mental health literacy is considered to be the foundation for mental health promotion, prevention, early identification and improved access to effective care and for young people it may be most appropriately addressed in school settings (Kutcher, Wei, & Coniglio, 2016; Kutcher, Wei, & Hashish,

2016; Kutcher, et al., 2016; Kutcher, Wei, & Weist, 2015; McLuckie, Kutcher, Wei, & Weaver, 2014; Milin, et al., 2016; Wei, et al., 2015). Mental health of young people in low- and middle-income countries is often neglected and not considered a health priority (Patton, et al., 2016; Skeen, Lund, Kleintjes, Flisher, & Consortium, 2010); and it is estimated that in these settings, approximately 75% of people with a mental illness go without treatment (Demyttenaere, Bruffaerts, & Posada-Villa, 2004; Flisher, & Consortium, 2010; Skeen, Lund, Kleintjes; Atilola & Ola, 2016; Kieling, et al., 2011). This challenge falls disproportionally on young people as most mental disorders can be diagnosed prior to age of 25 years (Kessler, et al., 2005; Kutcher, et al., 2016; Prince, et al., 2007) and the greatest burden of disease and medical disability among youth is attributable to mental disorders (Group, et al., 2007; Kutcher, et al., 2016; World Health Organization [WHO], 2001; World Health Organization [WHO], 2004; World Health Organization [WHO], 2014). Thus, improving mental health literacy related to young people needs to be addressed in low- and middle-income countries.

Tanzania, a low-income country in sub-Saharan Africa, is one of the poorest countries in the world and has a proportionally very high distribution of youths in its population: 60 percent are aged under 25 (Central Intelligence Agency, 2016). The formal Tanzanian education system, which includes no mental health curriculum resources, follows a 2-7-4-2-3 system; two years of pre-primary school, seven years of primary school, four years of ordinary secondary school (ordinary level), two years of advanced secondary school (advanced level), and at least three years of post-secondary education (Nuffic: EP, 2015). Primary education is mandatory for children aged 7 to 14 and post-secondary education is only eligible to those who have completed advanced level secondary school; an advanced level education is not required to attend vocational school. In government public schools, students are taught in Kiswahili (except for English subject classes) until secondary school where the language of instruction is English (Nuffic: EP, 2015). Tanzania has about 14,700 primary schools and 2,289 secondary schools with current school-age enrolment rates of 96 and 13 percent, respectively; education expenditures are 3.9% of the country's gross domestic product (GDP) (The World Bank, 2007).

Although the prevalence of mental disorders among youths in Tanzania is currently unknown, the prevalence of mental disorders among youth populations in sub-Saharan Africa has been found to range between 13 and 20% (Atilola & Ola, 2016; Cortina, Sodha, Fazel, & Ramchandani, 2012). School mental health and school mental health initiatives (Kutcher, 2011; Kutcher, et al., 2011; Kutcher, Bagnell, & Wei, 2015; Kutcher, et al., 2015; Kutcher, et al., 2016; Kutcher, Wei, & Morgan, 2015; Kutcher & Wei, 2014; Kutcher, Wei, & Weist, 2015; Weare & Nind, 2011) demonstrate, and provide evidence, that schools are an institution which can be used to address and improve various aspects of mental health amongst young people (students) as well as teachers. Available data from Tanzania suggests that the need to address mental health in schools is substantive. For example, the Tanzania Global School-based Student Health Survey Report (GSHS) found that almost one quarter of students (23.6%) "felt so sad or hopeless almost every day for two weeks or more in a row that they stopped doing their usual activities during the past 12 months" (Nyandindi, 2008, p. 17). As a result of their findings Nyandindi et al (2008) advocated for increases to mental health promotion and education, and the creation of school health clubs as a means of reducing symptoms of depression among students. Despite this recognition of the importance of school-based mental health there are few empirical reports addressing school mental health approaches stemming from sub-Saharan Africa in general (Atilola & Ola, 2016), and Tanzania in particular (Kutcher, et al., 2016).

As an attempt to help address these concerns, a school based mental health literacy resource was developed for application in sub-Saharan Africa. Called the African Guide it is a classroom ready curriculum resource that addresses all of the aspects of mental health literacy described above. Designed to be used by usual classroom teachers the African Guide was created by adaptation and modification of the original Canadian Guide (Kutcher & Wei, 2014) by mental health and education experts in Malawi and Tanzania (for detailed information on this process see Kutcher, et al., 2015 and Kutcher, et al., 2016) as part of the Grand Challenges Canada funded project 'An integrated approach to addressing the challenge of Depression among the youth in Malawi and Tanzania (IACD)' (Kutcher, et al., 2015; Kutcher, et al., 2016; Kutcher, et al., 2016; Kutcher, et al., Submitted; Kutcher, Gilberds, Morgan, Udedi, & Perkins, 2015).

Results from the application of a training program on how to use the African Guide in a sample of Tanzanian educators (Kutcher, et al., 2016) has previously demonstrated significant and substantial improvements in teachers' mental health knowledge and significant and substantial decreases in teachers' stigmatizing attitudes. Furthermore, as a result of the training intervention, teachers reported increased help-seeking behaviors such that they were more likely to seek mental health care for themselves as well as suggest others (students, friends, family members, and peers) seek professional mental health care.

Following the training program, teachers who participated in the original study were encouraged to apply the African Guide in their classrooms. About six months later, teachers were invited to participate in a refresher intervention related to the use of the African Guide. As a part of that intervention, they were asked about their experience in their application of the African Guide since the completion of their initial training experience. At two later time points (approximately at 10

months and 12 months post initial training), these experience reports were again obtained. This publication provides the outcomes from this one-year long evaluation of teachers who applied the African Guide mental health literacy curriculum resource.

2. Method

2.1 Study design and Process

This is a study to investigate the impact of the African Guide resource at three time points over a one year period following its implementation in a sample of Tanzania schools. Teachers completed the survey (the School Mental Health Literacy Impact Data Collection Form), a copy of which is found in Appendix one. Thirty-two surveys were obtained from teachers who had received the initial African Guide training located at twenty-nine different secondary schools at three time points: six months, ten months and one year following the initial training period. Demographic information of participants was not collected.

2.2 Data Collection Form

The survey asked respondents to complete the information as it related to the last two months prior to the survey date, with the exception of the initial survey, which asked respondents to provide information since the implementation of the African Guide for use in their school (a period of approximately six months). The survey assessed the following: 1) Number of classes in which the Guide was taught; 2) Number of students who were exposed to the Guide; 3) Number of formal mental health literacy discussions/ in-service presentations provided within schools by the trained teachers to teaching staff peers; 4) Number of new teachers trained by the original cohort of teachers in the use of the Guide resource; 5) Number of students approaching teachers for a mental health concern; 6) Number of students referred by each teacher to a health care provider for a mental health concern. At the last time point evaluation, teachers were also asked to report their perceptions regarding changes in their own as well as their students' knowledge, attitudes and mental health help seeking behavior. The impact of the African Guide intervention on knowledge, attitudes and behavior was assessed by teacher report following the outcomes methodology described by Kutcher et al (2015) using a 5-point Likert scale; scores ranged from do not know (0), strongly worsened (1), worsened (2), stayed the same (3), improved (4), to strongly improved (5).

To our knowledge, this is the first report of a longitudinal impact of one year's duration of a mental health literacy intervention provided by teachers, not only in sub-Saharan Africa, but globally as well.

2.3 Data Analysis

Descriptive analyses are provided at three time points over a one-year period (see Figure 1).

3. Results

3.1 Impact

3.1.1 Number of Classes Taught (Q1)

At Time One, the number of classes in which the Guide had been taught was 377 (M=16.39 per teacher), at Time Two the additional number of classes was 275 (M=11.46 per teacher) and at Time Three the additional number of classes was 98 (M= 3.98 per teacher). The additive results demonstrate 652 (M=22.48 per teacher) classes taught from the completion of the training program to Time Two and the overall number of classes taught over the one-year period was about 750 (M=24.19 per teacher).

3.1.2 Numbers of Students Exposed (Q2)

At Time One, the number of students exposed to the Guide was 1671 (M=69.63 per teacher), at Time Two the number of students exposed to the Guide was an additional 1554 (M=64.75 per teacher) and at Time Three the number of students exposed to the Guide was an additional 1432 (M=57.28 per teacher). The additive results demonstrate 3225 (M=107.50 per teacher) students exposed to the Guide from the completion of the training program to Time Two and the overall number of individual students exposed to the Guide over the one-year period was about 4657 (M=145.53 per teacher).

3.1.3 Number of In-school Discussions (Q3)

At Time One the number of in-school discussions/ presentations was 558 (M=26.57 per teacher), at Time Two the number of in-school discussions/ presentations to other teachers within the school was an additional 561 (M=25.50 per teacher) and at Time Three the number of in-school discussions/ presentations was an additional 269 (M=11.21 per teacher). The additive results demonstrate 1119 (M=39.96 per teacher) discussions/ presentations from the completion of the training program to Time Two and the overall number of discussions/ presentations by teachers to their peers, over the one-year period was 1388 (M=47.86 per teacher).

3.1.4 Number of Peer Teachers Trained (Q4)

At Time One, the number of new teachers (peers) trained in the use of the Guide by was 55 (*M*=2.50 per teacher), at Time Two the additional number of new teachers trained was 57 (*M*=3.35 per teacher), and at Time Three the additional number of new teachers trained was 47 (*M*=2.35 per teacher). The additive results demonstrate 112 (*M*=4.31 per teacher) new teachers (peers) being trained on the use of the Guide from the completion of the training program to Time Two and the overall number of new teachers trained by over the one-year period was 159 (*M*=6.12 per teacher).

3.1.5 Students Approaching Teachers for a Mental Health Concern (Q5)

At Time One, the number of students approaching teachers for a mental health concern was 150 (*M*=6.82 per teacher), at Time Two the additional number of students approaching teachers was 113 (*M*=5.38 per teacher) and at Time Three the additional number of students approaching teachers was 136 (*M*=6.80 per teacher). The additive results demonstrate 263 (*M*=9.39 per teacher) students approaching teachers for a mental health concern from the completion of the training program to Time Two and the overall number of students approaching teachers regarding a mental health concern over the one-year period was 399 (*M*=13.76 per teacher).

3.1.6 Teacher Referrals of Students for Mental Health Care (Q6)

At Time One, the number of students referred by the original cohort of teachers to a health care provider for a mental health concern was 39 (*M*=2.05), at Time Two the additional number of students referred was 36 (*M*=2.77) and at Time Three the additional number of students referred was 33 (*M*=2.06 per teacher). The additive results demonstrate 75 (*M*=3.12 per teacher) students being referred to a health care provider for a mental health concern from the completion of the training program to Time Two and the overall number of students referred over the one-year period was 108 (*M*=4.50 per teacher).
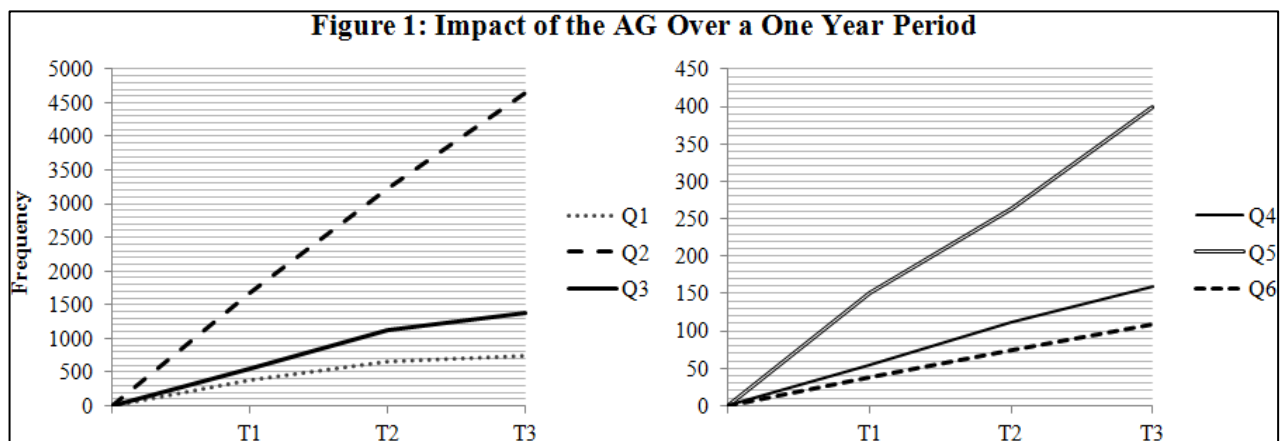

Figure 1. Additive effect of the impact of the African Guide over a one year period

T1 is six months post-training, T2 is ten months post-training and T3 is one year post-training. Q1 is the number of classes in which the Guide was taught; Q2 is the number of students who were exposed to the Guide; Q3 is the number of formal within school mental health literacy discussions/ in-service presentations provided to teaching staff; Q4 is the number of new teachers trained in the use of the Guide resource; Q5 is the number of students approaching teachers for a mental health concern; and Q6 is the number of students referred from the school to a health care provider for a mental health concern (primarily Depression).

3.2 Teacher Reported Student and Teacher Outcomes

3.2.1 Knowledge

Comparing student's knowledge about mental health and mental disorders between the beginning and the end of the intervention, teachers indicated 100% of students' knowledge about mental health and mental illness had either improved or strongly improved. When asked about their own knowledge, 83.3% of teachers' reported that their knowledge had improved or strongly improved. Knowledge stayed the same for 16.7% of teachers. There was no report of knowledge decrease.

3.2.2 Attitudes

Comparing student's attitudes towards individuals with a mental illness beginning and at the end of the intervention teachers indicated 100% of students' attitudes towards people with mental illness had either improved or strongly improved.

3.2.3 Behavior

Comparing student's behaviors towards individuals with a mental illness beginning and the end of the intervention, teachers indicated 100% of students' behaviors had either improved or strongly improved. About 87% of teachers' reported that their own behavior had either improved or strongly improved. Self-reported behavior stayed the same for 12.5% of teachers. There was no report of behavior worsening.

4. Discussion

This is, to our knowledge, this is the first study in Tanzania (and perhaps globally) providing teacher-reported mental health literacy impacts and outcomes over a one-year period as a result of implementing a school based mental health literacy curriculum resource (in this case, the African Guide). The results from this survey report demonstrate a substantial number of school based mental health literacy interventions occurring as a result of the training that teachers had received in how to apply the African Guide in their classrooms. Compared to no school based mental health literacy interventions prior to the training students received substantial exposure to the African Guide resource. Over one year: 750 classes were taught and 32 teachers provided 4657 students mental health literacy teaching in their schools. Since mental health literacy is a foundational component for mental health promotion, prevention and care, this intervention has demonstrated that school-attending youth in Tanzania can be reached through this relatively simple approach, integration of mental health literacy into usual school curriculum. The mean number of students per teacher reached within this one-year period was 145. If this result can be equally extrapolated across all teachers in Tanzania with scale-up of this intervention, the numbers of students reached will reach well into the hundreds of thousands and make up a substantial proportion of the youth population.

While this intervention reached substantial numbers of students, it also demonstrated a strong impact in exposing teachers who had not received the African Guide training session to the resource through peer based training, thus widening the reach of mental health literacy exposure in this cohort of professionals. As part of their training teachers had been asked to provide peer based "in-service" exposure of the African Guide to teachers who worked in their schools. As a result of this peer based exposure, 1388 in school discussions and presentations were provided, a technique that enhanced the possibility that much larger numbers of teachers would have an opportunity to learn about mental health and mental disorders. Prior to this intervention, no such opportunity existed and to our knowledge, there is no pre-service teacher training or in-service training on mental health. While this lack of exposure for teachers to education on mental health is also found in high-income countries (for example, similar concerns have been raised in Canada: see Frosse-Germain and Reil (2012)), this approach may offer a potentially vital training/educational method that if implemented across the country could reach most practicing teachers in a relatively simple and inexpensive manner. Furthermore, during this time, an additional 159 teachers received specific instruction from their previously trained colleagues on the application of the African Guide in their classrooms. While outcomes for this additionally trained cohort were not evaluated in this report, should similar results be obtained from this peer initiated intervention in other schools, and if this intervention was scaled-up across Tanzania the impacts of this intervention reported herein could be greatly enhanced and would reach a substantial proportion of teachers working in the country.

As a result of their training, teachers became aware that some students in their schools may be at high risk for having a mental disorder (specifically Depression) and when they began to apply the African Guide in their classrooms, students learned that they could approach their teachers for help should they have concerns that they themselves might have a mental disorder. Prior to the African Guide training, teachers reported that they had not identified any students at high risk of a mental disorder and that no students had approached their teachers with the concern that they may have a mental disorder. Over the course of the year since the introduction of the African Guide in their schools, 399 students approached their teachers about their personal mental health concerns and teachers referred 108 students to trained community health care providers for assessment for a potential mental disorder (specifically Depression). These findings represent a substantial increase in case identification and potential access to mental health care, none of which had been realized prior to the intervention. The mean number of students approaching teachers for a mental health concern was about 14 and the mean number referred for mental health care per teacher was about 4 over the course of one year. Thus, if this number held in all schools and if this intervention was scaled-up across Tanzania the impact of this intervention reported herein could be greatly enhanced and many thousands of young people would potentially be referred for mental health care. As this intervention was paired with training of community health care providers that lead to improved access to effective diagnosis and treatment of youth with Depression (Kutcher, et al., 2016; Kutcher, et al., Submitted; Kutcher, et al., Submitted), taken together with increased identification and referral of youth by teachers, this intervention would potentially significantly increase access to mental health care for young people who previously would not have been able to so realize.

To help determine the impact of this African Guide intervention on knowledge, attitudes and behaviors, over a period of

one year, teachers were asked to report on their evaluation of any changes in these domains that they had noticed in their students. While this approach may not be as robust as asking students directly and may be subject to bias (Hawthorne effect), it is an outcome measure that has cultural familiarity for teachers and has been successfully applied in other settings (Kutcher, et al., 2015). Teachers reported that all their students had demonstrated either improved or very much improved outcomes in knowledge, attitudes and behaviors compared to prior to the intervention. The improvement to knowledge, attitudes and behaviors is an additional substantial positive impact of this intervention.

Regarding teacher self-reports, no teacher reported worsening of any of these outcome measures and over 80% reported that their knowledge and behaviors had been improved or very much improved as a result of the training intervention and their subsequent application of the African Guide resource in their classrooms. Unfortunately, due to a transcription error in the questionnaire, the data on teacher's attitudes was not captured.

5. Limitations

While the impacts and outcomes reported here are robust and to our knowledge the first such described, a number of limitations must be considered. Teacher attitudes could not be assessed due to a transcription error on the evaluation questionnaires, thus an important outcome was not able to be determined. Direct measurement of student and teacher mental health literacy such as that reported in studies from high-income countries (Kutcher et al., 2015; McLuckie et al., 2015; Milin et al., 2016) may provide a more robust outcome measure of knowledge, attitudes and behaviors than relying on teacher reports. The linking of school based referrals to community health clinic intake data would give a perspective on how many young people identified by teachers in need of care actually accessed care in the community. Further studies addressing these limitations are either currently underway or planned.

6. Conclusion

The results from this evaluation builds on previous research (Kutcher, Bagnell, & Wei, 2015; Kutcher, et al., 2015; Kutcher, Gilberds, Morgan, Udedi, & Perkins, 2015; Kutcher & Wei, 2014; Kutcher, Wei, & Hashish, 2016; Kutcher, Wei, & Morgan, 2015) and further demonstrates the mental health literacy impacts and improvements that can be realized by the implementation of a mental health literacy resource into school curriculum (in this case, the African Guide) and the potential reach that this approach can have on exposing large numbers of students and teachers to this resource within the Tanzanian secondary school system. These results provide further evidence for the wide-spread use of the African Guide resource as an effective and potentially sustainable way to increase the mental health literacy (improved knowledge, decreased stigma and enhanced help-seeking efficacy) of teachers and students, across Tanzania. Based on the previously reported positive results of the implementation of the African Guide in both Malawi (Kutcher, et al., 2015) and Tanzania (Kutcher, et al., 2016) combined with the one year outcomes described in this report, this school based mental health literacy intervention should be considered for scale-up in both Malawi and Tanzania and possibly for scale out in other sub-Saharan countries as well.

Acknowledgement

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Appendix

School Mental Health Literacy Impact Data Collection Form:

Date:

Name of School:

Name of Person Completing this Form:

Professional Title (role in school):

Please complete the following information for the last two months. If this is the first time you are completing this form please complete the information requested but use the entire period of time beginning from the time the project was initiated by your school.

If this is the initial time that this form has been completed at your school please mark an "x" here: _____.

If this is the LAST time that this form is being completed at your school please mark an "x" here: _____.

If numbers requested below are estimated please note that they are estimated.

1) Number of classes in which the Guide was taught (include listening clubs). _____. Estimated yes ___.

2) Number of students who were exposed to the Guide either in class or in listening clubs. _____. Estimated yes ___.

3) Number of formal within school mental health literacy discussions/ in-service presentations provided to teaching staff. _____. Estimated yes ___.

4) Number of new teachers trained in the use of the Guide resource. _____. Estimated yes ___.

5) Number of students approaching teachers for a mental health concern. _____. Estimated yes ___.

6) Number of students referred from the school to a health provider for a mental health concern. _____. Estimated yes ___.

In your opinion, has the general attitude of teachers in the school regarding mental health over the time period noted above been:

Generally highly positive: _____.

Generally positive: _____.

Neutral: _____.

Generally negative: _____.

Generally highly negative: _____.

Do not know: _____.

Please only complete these questions if this is the last time you are filling out this form for this evaluation period.

Since the beginning of this project the knowledge of students about mental health and mental illness has:

Strongly improved: _____.

Improved: _____.

Stayed the same: _____.

Worsened: _____.

Strongly worsened: _____.

Do not know: _____.

Since the beginning of this project the attitude of students towards people with a mental illness has:

Strongly improved: _____.

Improved: _____.

Stayed the same: _____.

Worsened: _____.

Strongly worsened: _____.

Do not know: _____.

Since the beginning of this project the behaviors of students towards people with a mental illness has:

Strongly improved: _____.

Improved: _____.

Stayed the same: _____.

Worsened: _____.

Strongly worsened: _____.

Do not know: _____.

Since the beginning of this project the knowledge of teachers in the school not involved in this project about mental health and mental illness has:

Strongly improved: _____.

Improved: _____.

Stayed the same: _____.

Worsened: _____.

Strongly worsened: _____.

Do not know: _____.

Since the beginning of this project the knowledge of teachers in the school not involved in this project about mental health and mental illness has:

Strongly improved: _____.

Improved: _____.

Stayed the same: _____.

Worsened: _____.

Strongly worsened: _____.

Do not know: _____.

Since the beginning of this project the behaviors of teachers in the school not involved in this project towards people with a mental illness has:

Strongly improved: _____.

Improved: _____.

Stayed the same: _____.

Worsened: _____.

Strongly worsened: _____.

Do not know: _____.