

Mental Health Emergency Care in Australia: An Educational Program for Clinicians

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ABSTRACT

Introduction: In Australia, recent changes in mental health emergency care (MHEC) service delivery models highlight the need for clinicians to increase their knowledge and skills in mental health. A workplace training program was developed and implemented across the state of New South Wales (NSW) between 2009 and 2010. The program focused on the assessment, management, and support of people who present to Emergency Departments with common mental health problems. The study sought to assess whether there was a change in the knowledge, confidence, and skills of clinicians as a result of the workplace training program. **Methods:** A total of 127 (89.4%) mental health and emergency department staff returned precourse and postcourse surveys that measured their self-reported confidence in specific mental health skills areas, and perceived self-efficacy in dealing with aggressive behaviors. A 15-item researcher-developed test evaluated mental health knowledge. Perceptions of learning and connectedness were also assessed. Differences in scores were measured using parametric (matched pairs *t*-tests) and nonparametric (Wilcoxon matched-pairs signed-ranks test), with the magnitude of the effect determined using Cohen's *d*. **Results:** Despite challenges in ensuring the involvement of emergency department staff, statistically significant improvements ($P < 0.001$) were detected in all confidence and skills questionnaire items, perceived self-efficacy in dealing with aggressive behaviors and the knowledge test, with medium to large effect sizes. **Discussion:** It is noteworthy that even when delivered primarily with mental health staff the program was highly beneficial. The significant investment in new models of MHEC across NSW and recruitment of less experienced staff highlights a need for further research and implementation of the program.

Keywords: Education, emergency departments, mental health

Introduction

In Australia, recent changes in models of mental health service delivery highlight an emerging need for universities to provide and evaluate health workforce education programs that meet industry needs. In addition, changes in healthcare policy have had important implications for the ways in which people access public mental health services.^[1] Currently, mental healthcare is no longer based on large psychiatric institutions

but is delivered within the mainstream health system and through community care. This concept of mainstreaming has been widely promoted as part of four National Mental Health Plans that have been implemented over the past two decades and that have resulted in increased numbers of mental health presentations to general hospital Emergency Departments (EDs). Despite the fact that EDs have increasingly become the gateway to mental health services, staff are often under prepared to respond to and manage people with severe behavioral disturbance or people who have severely altered mental states.^[2,3] In particular, adolescents and people who present to EDs with a potential for self-harm or harm to others can pose challenges for ED clinicians.

In the state of New South Wales, the Health Department (NSW Health) has invested considerable resources toward improving services for people with mental health problems who present to

Access this article online	
Quick Response Code: 	Website: www.educationforhealth.net
	DOI: 10.4103/1357-6283.125994

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public hospital EDs, including in relation to improving models of emergency mental health service delivery in each Local Health District. Because of the diversity of available resources and needs in each district, a range of service models has been established across NSW. In metropolitan locations, a number of purpose-built psychiatric emergency care centers, which are attached to EDs, have been established. This follows a trend in North America where a number of these units were built during the 1990s.^[1] There is a paucity of research on the effectiveness of psychiatric emergency care units, however, and concerns have been raised that they may reduce the exposure of ED staff to mental health clients, thus diminishing opportunities for raising mental health awareness among mainstream services.^[1]

In rural and remote NSW, such specialist units are not financially viable due to smaller patient volumes and geographical distance, so 'hub and spoke' models have commonly been adopted. Hub and spoke models often involve the location of TeleHealth equipment in a regional 'hub' that provides 24-hour support and access to a psychiatrist for consultation and assessment of people who present to outlying rural EDs. The hub and spoke approach is important because it means that people in rural NSW can be managed in local EDs and no longer need to be transported hundreds of kilometers for a basic psychiatric assessment. At the same time, there is scant evidence on the effectiveness of this model.

Although the need for service models that are flexible and responsive to community needs is incontestable, the diversity of models of emergency mental healthcare in NSW present obvious challenges in ensuring that ED clinicians are skilled and resourced, and that the mental healthcare that service users receive is not compromised. Unfortunately, service users in Australia often report poor service quality and stigmatizing attitudes when they present at acute care facilities further highlighting the importance of providing professional development for ED clinicians and evaluating the effectiveness of these educational efforts.^[4]

In 2008, the Centre for Rural and Remote Mental Health (CRRMH), in collaboration with the NSW Institute of Psychiatry, was funded by NSW Health to develop and deliver a learning and development program that aimed to increase the capacity of NSW public sector health service personnel to provide safe and effective mental health emergency care (MHEC) services. In order to cater for the diverse learning needs of clinicians, the MHEC learning and development program comprised two components. First, a postgraduate elective course was accredited in Masters programs at both the University of Newcastle and the Institute of Psychiatry and delivered online. Second, a three-day, nonaccredited, workplace-based course was offered for face-to-face delivery in each Local Health District. The outcomes of the evaluation of the three-day, face-to-face, workplace-based course are detailed in this report.

Methods

The MHEC course was developed by academic and project personnel as a three-day, workshop-based, vocationally oriented course. Wide consultation was undertaken with health services and meetings were held with mental health service managers across NSW. Because different models of MHEC were being established, it was important that local areas assisted with the identification and recruitment of participants. In addition, a Project Advisory Group was convened that included representatives from EDs, the NSW Consumer Advisory Group, the NSW Trans Cultural Mental Health Centre, Aboriginal mental health services, the NSW Ambulance Service, and NSW Police. This group provided advice on participant recruitment and the broad program content. A curriculum review group was also established to ensure the training materials and content were relevant and acceptable to ED clinicians. This group was recruited from the Mental Health Clinical Liaison Group, a professional body established in NSW to support mental health clinicians working in EDs.

Participation in the course was free but no funds were available to backfill staff or to cover travelling costs. The MHEC course was targeted at clinicians in EDs and mental health clinicians who were working in emergency services, many of whom were recently recruited to local MHEC services with little experience of acute services. In particular, the course was designed for mental health and ED nursing staff and allied health clinicians who comprised the majority of participants. The course was designed to reflect national and state-based research evidence and policy direction, focusing on core skills in the delivery of safe, effective, and acceptable MHEC services. The course was delivered by one faculty member and one local emergency mental healthcare worker, a pool of whom were recruited and participated in a two-day "train the trainer" program prior to delivering the course. The course content addressed current legislation, policy, assessment, and management of typical presentations. In addition, multimedia components were developed that included a DVD on recovery, and consumer and care giver perspectives. The DVD was made in collaboration with the NSW Consumer Advisory Group and focused on the lived experience of people who had received emergency mental healthcare in the past. Care was taken to ensure participants were able to voice the challenges and difficulties that they had experienced in attempting to provide emergency mental health care. This was designed to enable participants to actively engage with the course content and to strengthen the sense of connectedness and learning community during the three day course. Small group problem-based activities were included in the training and incorporated both transcultural and Indigenous cultural perspectives. Both metropolitan and rural Local Health Districts participated in the program, and 142 personnel participated in eight courses conducted between May 1, 2009 and April 30, 2010.

Permission was received from the University of Newcastle and NSW Department of Health Human Research Ethics Committees to conduct evaluation research on the impact of the MHEC course, as a component of the broader MHEC Learning and Development program. Participation in the MHEC course was not contingent on participation in the evaluation research. Participation in both the course and the evaluation research was voluntary and participants were free to withdraw from either at any time.

Measures

The impact of the MHEC course was evaluated using measures that have been employed in previous evaluation research.^[5,6] The measures address the broad domains of knowledge, skills and attitudes that are identified in the Australian National Practice Standards for the Mental Health Workforce.^[7] Nine researcher-developed items measured self-reported confidence in specific mental health skills areas, with each item rated on a Likert scale from 0 (least confident) to 7 (most confident). Changes in knowledge were measured using a 15-question, researcher developed quiz.

The validated perceived self-efficacy in dealing with aggressive behaviors scale was employed to evaluate the effectiveness of the aggression management components of the course, namely therapeutic communication and deescalation skills.^[8,9] In addition, participant perceptions of the extent to which they experienced a positive and constructive learning environment was examined postcourse, using the validated Classroom Community Scale (CCS). The CCS comprises two sub-scales measuring 'social community' (connectedness) and 'learning community'.^[10,11] Each sub-scale is scored in the range 0-40, and the combined sub-scales provide an overall score for 'sense of community'. Participants were also invited to provide other comments about any aspect of the course, including suggestions on potential changes or improvements. Comments were deidentified and subjected to thematic analysis.

Raw data were first entered into a Microsoft Office Excel (2007) workbook for cleaning and initial analysis. Blank and unreadable responses were recoded to missing values. Cleaned, matched data were transferred and stored in a Stata database for subsequent analyses.^[12] The distributions of data for the precourse and postcourse variables were examined for normality by reviewing the histograms, and determining skewness and kurtosis for each variable. For the ordinal variables, the Wilcoxon matched-pairs signed-ranks test was employed to test the hypothesis that the precourse and postcourse distributions for each variable were the same. Two-sample paired *t*-tests were also conducted on both the ordinal and continuous data to test the hypothesis that there was no difference between precourse and postcourse means. Where the use of *t*-test results for the ordinal data

was considered appropriate, more extensive reported detail could be achieved.^[13] In addition, for each of the matched precourse and postcourse variables, the magnitude of the intervention effect was determined using the effect size index, Cohen's *d*.^[14,15]

Results

Of the 142 participants in the program, 127 (89.4%) completed precourse and postcourse evaluation questionnaires that, in addition to basic demographic data, measured changes in their confidence, attitudes, and knowledge about responding to people presenting with severe mental health problems. The majority of participants were registered or enrolled nurses ($n = 96$) or allied health clinicians ($n = 18$). In two-way comparisons of the precourse survey and matched pairs data, no significant differences were detected in relation to local health district, health delivery area, profession, or qualifications. The mean age of participants was 43.8 (95% CI 41.9-45.7) with a median of 46 years. The profile of survey participants returning matched pre-course and postcourse data are detailed in Table 1.

For the nine items measuring self-reported confidence in key mental health skill areas, the precourse and postcourse results were sufficiently normally distributed. In relation to precourse and postcourse differences, the Wilcoxon matched-pairs signed-ranks test and two-sample paired *t*-test returned identical significance levels ($P < 0.001$). There were statistically significant improvements in participant confidence across all nine items and the magnitude of the effect size index was medium to large [Table 2].

The precourse and postcourse survey results for PSE in responding to aggressive behaviors ($n = 126$) were sufficiently normally distributed and were subjected to two-sample paired *t*-test analysis. There was an improvement from the precourse mean of 23.04 (95% CI 22.05-24.03) to the postcourse mean of 26.29 (95% CI 25.54-27.05) and the difference (3.25) was statistically significant ($t = 9.69, P < 0.001, 95\% \text{ CI } 2.59-3.92$). The magnitude of the effect size index was large ($d = 1.30, 95\% \text{ CI } 0.55-2.04$).

Participant knowledge quiz results ($n = 126$) were also sufficiently normally distributed and were subjected to two-sample paired *t*-test analysis. There was an improvement from the precourse mean of 8.53 (95% CI 8.21-8.85) to the postcourse mean of 9.47 (95% CI 9.14-9.81). Once again, the difference (0.94) was statistically significant ($t = 5.44, P < 0.001, 95\% \text{ CI } 0.60-1.29$) and the magnitude of the effect size index was medium ($d = 0.69, 95\% \text{ CI } 0.36-1.02$).

The CCS sought to measure whether participation in the program enhanced connectedness and collaboration and was

administered at completion of the program. Out of a maximum score of 40, the mean 'social learning' (connectedness) score ($n = 126$) was 27.04 (95% CI 26.01-28.07) and the mean 'learning community' score ($n = 124$) was 31.27 (95% CI 30.23-32.30). The overall 'sense of community'

score ($n = 123$), obtained by summing the two sub-scale scores, was 58.30 (95% CI 56.40-60.20). Compared with the published results of other applications of the scale,^[6,10,11,16] CCS results for the current study indicate that participants were successfully engaged in a community environment where learning was supported and valued, both by fellow participants and course facilitators. This is an important outcome because the MHEC course aimed to enhance collaborative models of care between mental health clinicians and ED staff.

	Frequency	Proportion (%)
Area health service ($n=127$)		
North coast	38	29.92
South-east Sydney Illawarra	16	12.60
Sydney south-west	20	15.75
Hunter New England	41	32.28
North Sydney Central Coast	12	9.45
Health delivery area ($n=127$)		
Emergency department	23	18.11
Mental health-ED liaison	12	9.45
Community mental health	63	49.61
Inpatient mental health	16	12.60
Other	13	10.24
Profession ($n=127$)		
Aboriginal mental health worker	2	1.57
Enrolled nurse	5	3.94
Registered nurse	91	71.65
Occupational therapist	2	1.57
Psychologist	6	4.72
Social worker	10	7.87
Other	11	8.66
Qualifications ($n=127$)		
Hospital/TAFE*/trade certificate	22	17.32
Diploma	12	9.45
Degree	47	37.01
Postgraduate certificate/diploma	31	24.41
Masters/doctorate	15	11.81
Age ($n=125$)		
<30	17	13.60
30-39	21	16.80
40-49	43	34.40
50-59	37	29.60
>59	7	5.60

*Technical and further education, ED = Emergency department

In relation to qualitative feedback, 59 participants (46%) provided comments on the course. The responses supported the quantitative results that demonstrate significant improvements in participant knowledge and understanding of each other's roles. One participant stated: "I definitely believe I will improve my level of care following this course, I have greater insight into the other departments with which we liaise". Improvements in participant attitudes and confidence in their provision of MHEC were also highlighted: "Having completed the MHEC 3 day seminar my confidence to deal with emergency situations has improved. I now feel I could quite confidently handle most situations with help".

Discussion

The partnership between the CRRMH and the NSW Institute of Psychiatry was helpful in developing, delivering and evaluating a program of MHEC education because it built on the capacity of each organization to draw together advisory and consultation groups to deliver a workplace program that was informed by clinicians and service users. Furthermore, the significant learning outcomes that were achieved suggest that the MHEC course did improve the confidence and knowledge of participants, who were comprised largely of nurses and allied health clinicians.

Although there were challenges in terms of ensuring the involvement of ED staff in each MHEC course, it is noteworthy that even when delivered with mental health

Questionnaire item*	Precourse mean (95% CI)*	Postcourse mean (95% CI)*	Difference of means (95% CI)	t value (significance)	Cohen's d (95% CI)
Deciding if a person might be at risk of harming themselves (e.g. cutting)	4.94 (4.73-5.14)	5.51 (5.36-5.66)	0.57 (0.41-0.74)	6.84 ($P<0.001$)	0.90 (0.75-1.05)
Deciding if a person might be at risk of committing suicide	4.90 (4.68-5.12)	5.50 (5.35-5.66)	0.61 (0.44-0.78)	7.05 ($P<0.001$)	0.94 (0.79-1.09)
Deciding if a person might be at risk of harming other people	4.80 (4.59-5.00)	5.39 (5.23-5.54)	0.59 (0.43-0.76)	7.10 ($P<0.001$)	0.92 (0.77-1.08)
Deciding if a person has a drug and/or alcohol problem	5.39 (5.19-5.58)	5.72 (5.57-5.88)	0.34 (0.18-0.50)	4.19 ($P<0.001$)	0.54 (0.38-0.69)
Keeping people, with risk of harm to themselves or others, safe in the health care setting	4.94 (4.71-5.16)	5.58 (5.42-5.75)	0.65 (0.47-0.83)	7.08 ($P<0.001$)	0.93 (0.77-1.10)
Talking to adolescents and children about their mental health issues	4.02 (3.77-4.27)	4.79 (4.58-5.00)	0.77 (0.60-0.94)	8.90 ($P<0.001$)	1.15 (0.94-1.35)
Talking to elderly people about their mental health issues	4.88 (4.65-5.12)	5.38 (5.19-5.56)	0.50 (0.32-0.67)	5.73 ($P<0.001$)	0.75 (0.56-0.93)
Talking to Indigenous people about their mental health issues	4.15 (3.91-4.39)	4.59 (4.37-4.81)	0.44 (0.27-0.61)	5.06 ($P<0.001$)	0.64 (0.42-0.86)
Talking to families/care givers about their loved ones' mental health issues	5.18 (4.96-5.40)	5.76 (5.62-5.91)	0.58 (0.41-0.75)	6.70 ($P<0.001$)	0.91 (0.76-1.05)

CI = Confidence interval

staff (irrespective of their experience) participation was beneficial with statistically significant improvements in the domains measured. In addition, the course was especially relevant for clinicians not seeking a more academically oriented course. Furthermore, the significant investment in new models of MHEC across NSW and the concomitant recruitment of less experienced staff to work in these services provides a rationale for further implementation of the MHEC program, even when all target groups may not be able to participate. Several limitations and challenges need to be acknowledged. The study relies on self-reported measures of participant confidence and a control or comparison design was not feasible. In addition, the lower rate of participation by ED clinicians (and physicians) means that the program remains largely untested with this group of frontline MHEC staff. The key barriers to participation included constraints in funding and staffing backfill for inpatient ED and mental health staff, especially in rural areas. Although it may be more viable to deliver the training to ED staff utilizing shorter in-service sessions, this approach lacks the collaborative practice model that the MHEC program aims to foster by including both mental health and ED clinicians in each program to enhance understanding of each other's roles. Indeed, the inclusion of Police and Ambulance staff who also have a role in the provision of MHEC could be warranted, but this was beyond the scope of the current study.

A number of methodological limitations also need to be acknowledged. This study relied on a pre-post intervention design. Participants comprised a convenience sample and, while key professional groups were represented in the sample, an accurate account of the population profile of mental health and ED clinicians could not be determined for the purpose of comparison. This limits the representativeness of the sample and likely generalizability of the outcomes. In addition, there was no allocation to intervention and control groups to compare outcomes and no longer term follow up of participants to assess the maintenance of their confidence and retention of skills over time. Finally, there are few validated scales for evaluating education initiatives and this necessitated the development of some customized scales that were unable to be validated as composite scales due to the limited sample size.

The World Health Organization^[17] has acknowledged the need for interprofessional learning and collaborative practice to help address global health inequities and the provision of face to face education programs across disciplines and settings remains a valuable endeavor. In Australia, the mainstreaming of mental health services means that service users who require MHEC now present to general practice and EDs. Interprofessional education is crucial to enhancing the coordination of care for people experiencing distress and mental health problems. A particular strength of the MHEC course was the integration

of key stakeholders including clinicians, service users, and care givers in the development of the course. The involvement of service users and care givers is enshrined in the National Mental Health Policy and Plan^[18,19] and the National Practice Standards for the Mental Health Workforce.^[7]

Conclusions

Because of an increasing need for universities to establish links with industry and to ensure their graduates meet business and community needs there has been more focus in the tertiary sector on work integrated learning and the provision of ongoing professional development programs. Because EDs are now commonly used for primary psychiatric assessment in NSW, it is important that further research is conducted into the effectiveness of changes to MHEC services and to evaluate training programs developed to up-skill the existing workforce.^[20] Universities have an important role in ongoing professional development for the health workforce. Collaboration with industry in the development and evaluation of professional development programs can help ensure they meet industry needs and are relevant for clinicians.

Acknowledgments

The authors would like to acknowledge the Psychiatric Emergency Care Centre Working Group and the NSW Clinical Nurse Liaison group for their assistance with reviewing the curriculum for the face to face program. In addition, the NSW Institute of Psychiatry were important collaborators in developing and delivering the MHEC programs. Finally, the authors would like to acknowledge the NSW Consumer Advisory Group for their patient guidance and assistance with creating audio visual resources and the Centre for Rural and Remote Mental Health where this work was undertaken. The authors declare that there are no conflicts of interest.

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How to cite this article: Robinson T, Hills D, Rossiter R. Mental health emergency care in Australia: An educational program for clinicians. *Educ Health* 2013;26:172-7.

Source of Support: Nil. **Conflict of Interest:** None declared.