# Evaluating Mental Health Crisis Training Outcomes Among Police, Firefighters, and Public Health Staff

## Study Protocol

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| Acronym | TAIWAN-CIT |
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| Institution | Far Eastern Memorial Hospital<br>No. 21, Section 2, Nanya South Road, Banqiao District, New Taipei City 220, Taiwan |
| Ethics approval | Research Ethics Review Committee, Far Eastern Memorial Hospital; approval number 114067-E; approved 15 May 2025 |
| Approved research period | 15 May 2025 to 30 April 2027 |
| Document version | Version 1.0, 6 July 2026 |
| Basis of this English version | Prepared from the IRB-approved protocol Version 2 dated 5 May 2025, questionnaire information page Version 2 dated 5 May 2025, e-questionnaire Version 1 dated 4 April 2025, and the study manuscript statistical analysis section. |

## 1. Administrative information

| Item | Description |
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| Public/scientific title | Evaluating Mental Health Crisis Training Outcomes Among Police, Firefighters, and Public Health Staff |
| Short title | TAIWAN-CIT |
| Study design | City-wide single-group pre-post questionnaire evaluation of a professional education and training programme. |
| Sponsor / host institution | Far Eastern Memorial Hospital, New Taipei City, Taiwan. |
| Principal investigator | Hua Ho, MD; femg97657@femh.org.tw |
| Study coordinator | Chiao-Yin Cheng, PhD, EMT-P; femhr9969@femh.org.tw |
| Ethics approval | Research Ethics Review Committee, Far Eastern Memorial Hospital, approval number 114067-E, approved on 15 May 2025. |
| Research period | 15 May 2025 to 30 April 2027. |
| Planned maximum number of participants | Up to 6,000 trainees under the IRB-approved protocol. The manuscript analysis may use the final analyzable cohort of respondents who completed the pre-training questionnaire. |

## 2. Background and rationale

Police officers, firefighters, nurses, public health personnel, and mental health outreach workers may be the first professionals to encounter people experiencing mental health crises, behavioral emergencies, suicidal behavior, intoxication, withdrawal, or crisis-related agitation. Inadequate knowledge, fear of injury, stigma, and limited familiarity with de-escalation or referral pathways may worsen frontline interactions and reduce the likelihood of appropriate medical or mental health care.

Crisis Intervention Team and related behavioral emergency training programmes are intended to improve recognition of mental health crises, crisis communication, de-escalation, decision-making, and collaboration between public safety and health systems. In Taiwan, empirical evaluation of interprofessional mental health crisis response training remains limited. This study evaluates a New Taipei City training programme using brief anonymous questionnaires immediately before and after the course.

## 3. Objectives

- To assess immediate changes in self-efficacy in managing mental health crises and behavioral emergencies after a 4-hour training course.
- To assess immediate changes in knowledge or cognition toward behavioral emergency management.
- To assess immediate changes in stigma-related attitudes toward people experiencing mental illness or behavioral emergencies.
- To assess immediate changes in stigma-related attitudes toward people with substance use problems.
- To describe participant satisfaction with the content and delivery of the training course.

## 4. Study design

This is an interventional educational evaluation using a single-group pre-post design. There is no randomisation, masking, allocation concealment, control group, or biological sample collection. All eligible participants attend the same 4-hour face-to-face instructor-led course and are invited to complete online questionnaires immediately before and immediately after training.

## 5. Setting

The study is conducted in New Taipei City, Taiwan, in collaboration with the New Taipei City Government Department of Health and Far Eastern Memorial Hospital. Training sessions are delivered to frontline personnel involved in mental health crisis or behavioral emergency response.

## 6. Participants

### 6.1 Inclusion criteria

- Adults attending an eligible mental health crisis response or behavioral emergency training course.
- Police officers, firefighters, public health or mental health staff, nurses, or other frontline personnel involved in crisis response.
- Voluntary participation after reading the questionnaire information page.
- Completion of the online pre-training questionnaire.

### 6.2 Exclusion criteria

- Individuals who do not meet the inclusion criteria.
- Individuals who do not voluntarily agree to participate after reading the information page.
- Individuals who do not submit the pre-training questionnaire.

### 6.3 Recruitment and consent

No additional recruitment is performed outside the training setting. At course registration, eligible trainees are invited to scan a QR code to access the questionnaire information page. The information page explains the purpose of the study, voluntary participation, anonymous data collection, potential risks, privacy protection, and contact information. Completion and submission of the anonymous online questionnaire is treated as consent to participate. Participants may stop completing the questionnaire at any time before submission.

## 7. Intervention

The intervention is a single 4-hour face-to-face course on mental health crisis and behavioral emergency response. The course includes mental health legislation, primary and secondary assessment of behavioral emergencies, crisis recognition, recognition of violence escalation, communication, de-escalation techniques, consultation, referral pathways, and decision-making regarding transport or protective custody when applicable.

## 8. Outcome measures

| Item | Description |
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| Primary outcome 1 | Self-efficacy in managing mental health crises and behavioral emergencies, measured by the mean score of questionnaire items 6-13 on a 5- |

| Item | Description |
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| | point confidence scale. |
| Primary outcome 2 | Knowledge/cognition toward behavioral emergency management, measured by the mean score of questionnaire items 15-20 on a 5-point agreement scale, with item 20 reverse-coded. |
| Primary outcome 3 | Stigma-related attitudes toward people experiencing mental illness or behavioral emergencies, measured by items 21-26 as dichotomous items, with recovery/interaction items reverse-coded so that higher values indicate greater stigma. |
| Primary outcome 4 | Stigma-related attitudes toward people with substance use problems, measured by items 27-32 using the same dichotomous scoring approach. |
| Secondary outcome | Participant satisfaction with the training course, measured after training using five Likert-type satisfaction items. |
| Assessment time points | Immediately before the course and immediately after completion of the 4-hour course. Satisfaction is assessed only after training. |

## 9. Data collection and management

Questionnaires are completed online using QR codes. The questionnaire includes demographic and professional information, training outcome items, and post-training satisfaction items. The survey is designed to avoid collection of directly identifying personal information. Study files are stored on password-protected research-team accounts and institutional computers accessible only to authorised members of the study team. Online and electronic data will be retained until three years after study completion and then deleted according to the IRB-approved plan.

## 10. Statistical analysis

The statistical analysis plan is provided as a separate supporting document. In brief, descriptive statistics will summarise baseline characteristics and outcome scores. Pre-post changes will be analysed using paired methods in the primary imputed paired dataset, with Wilcoxon signed-rank tests as sensitivity analyses. Effect sizes will be expressed using Cohen's dz. Satisfaction will be described using means and proportions, and its association with changes in self-efficacy or cognition will be explored using correlation analyses.

## 11. Benefits and risks

Participants may benefit from improved knowledge, confidence, and practical skills in recognizing and responding to behavioral emergencies and medical or mental health conditions that may mimic intoxication or substance use. The training may also support safer communication, de-escalation, referral, and emergency response during frontline duties.

The risks are minimal. Participants complete brief questionnaires and take part in educational activities. Some questions or case discussions may cause mild discomfort because they involve behavioral emergencies, restraint-related safety, or emergency situations. Participants may skip questions by

discontinuing the questionnaire before submission, and participation is voluntary. Because submitted questionnaires are anonymous and not coded, withdrawal of already submitted data may not be possible.

## 12. Ethics and confidentiality

The study was approved by Research Ethics Review Committee, Far Eastern Memorial Hospital (approval number 114067-E) on 15 May 2025. The committee operates in accordance with Good Clinical Practice guidelines and applicable governmental laws and regulations. The study follows the approved protocol and approved questionnaire information page. Results will be reported in aggregate form only, and no participant will be identifiable in publications or presentations.

## 13. Dissemination

Study findings are expected to be disseminated through academic conferences, peer-reviewed journal publication, and course improvement reports. No commercial benefit is expected from participant involvement.

## 14. Funding and conflicts of interest

The IRB-approved protocol states that publication-related costs, such as language editing and publication fees, are covered by the investigator. The investigators declare no significant conflicts of interest related to this study.

## 15. References

Selected references are listed in the full manuscript. This English supporting protocol focuses on registry transparency and is based on the IRB-approved Chinese protocol and study documents.