

Development of a Prolonged Field Care Kit using a Modified Delphi Survey Approach

Zaiba Shafik Dawood, MD¹, Marjorie R. Liggett, MD¹, Toby P Keeney-Bontrone, MD², Rachel M Russo, MD³, Jessie W. Ho, MD¹, Walter Clark, RN⁴, Jennifer Gurney, MD⁵, Aleezeh Shaikh, BA¹, Daniel Couchenour, MD¹, Maxime Alexis Visa, BA, BS¹, Hasan B. Alam MD¹

¹Department of Surgery, Northwestern University Feinberg School of Medicine, Chicago, IL, USA; ²Department of Emergency Medicine, Feinberg School of Medicine, Northwestern University, 60610, Chicago, IL; ³Department of Surgery, US Air Force Embedded at the University of California Davis, 95817, Sacramento, CA; ⁴Department of Pharmacy, Advocate Illinois Masonic Medical Center, 60657, Evanston, IL; ⁵Joint Trauma System, San Antonio Military Medical Center, 78234, San Antonio, TX

Introduction

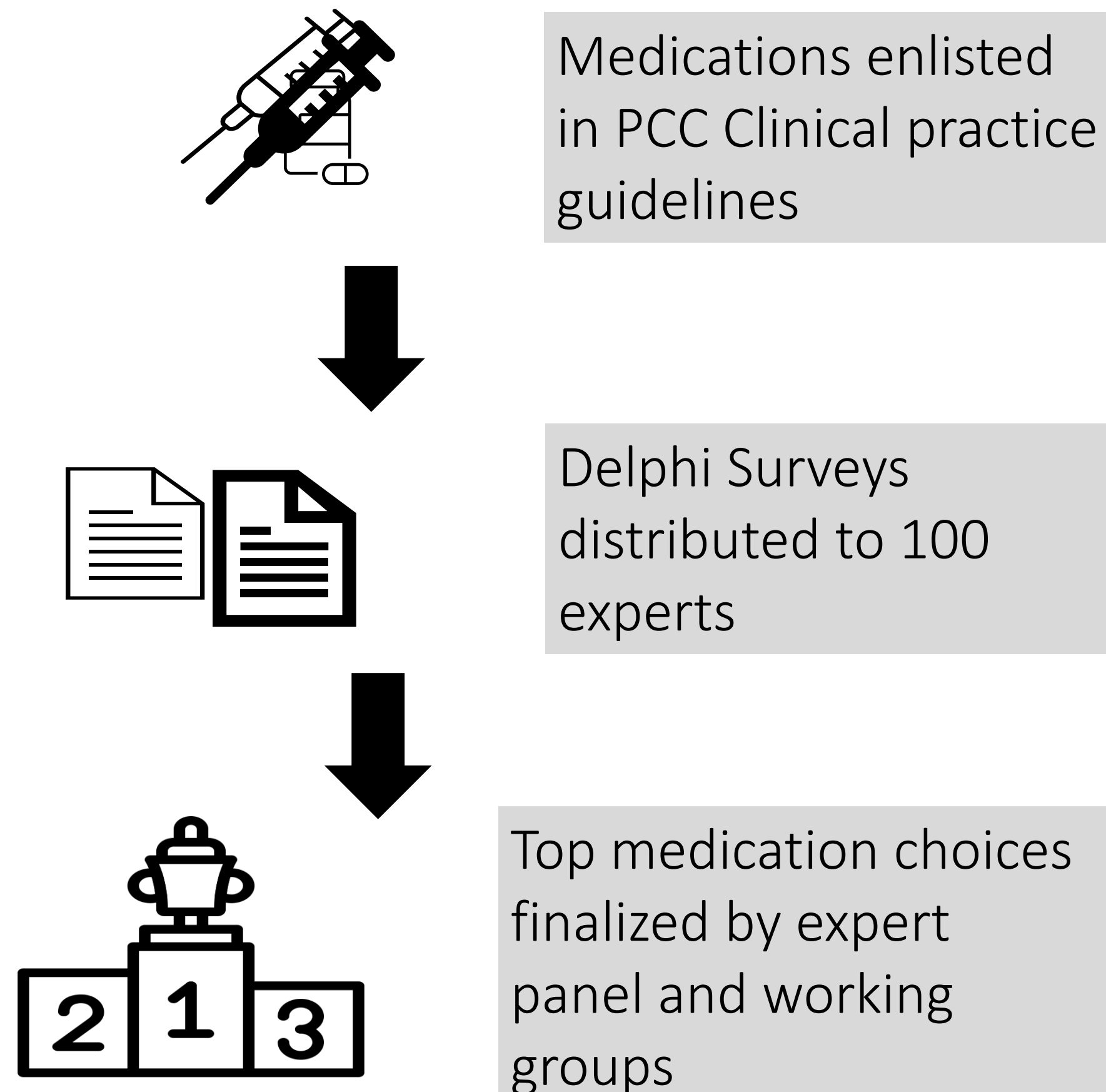
- Prolonged Casualty Care (PCC) is a military adaptation of Tactical Combat Casualty Care (TCCC).
- PCC provides up to 72 hours of pre-hospital care in delayed extrication
- However, providing PCC is challenging due to recommended medications outweighing size/weight restrictions during dismounted operations. .

Research Objectives

Aim 1: To narrow down the medication and supply items required for 72 hours of PCC

Aim 2: To create a standardized and effective prolonged field care kit (PFAK) with a weight limitation of 20 pounds (lbs).

Methods



Results

Response rate= 57% and 66% for first and second Delphi surveys respectively

Indication	Medication
IV Pain Medication	Fentanyl
Sedation	Ketamine
Sepsis	Oral antibiotic: Moxifloxacin IV antibiotic: Ertapenem
Seizure	Initial Seizure Management: Midazolam Seizure Prophylaxis: Levetiracetam
Antiemetic	Ondansetron
Choice of Anticoagulation	Enoxaparin
Oral Pain Medication	Acetaminophen Meloxicam
Resuscitation	IV fluids: Plasma-lyte A Blood Products: 3 units whole blood
High Intracranial Pressure	23.4% saline
Vasopressor	Norepinephrine
Adjuncts	Capnograph Portable Ultrasound Fluid Warmer Point of care testing

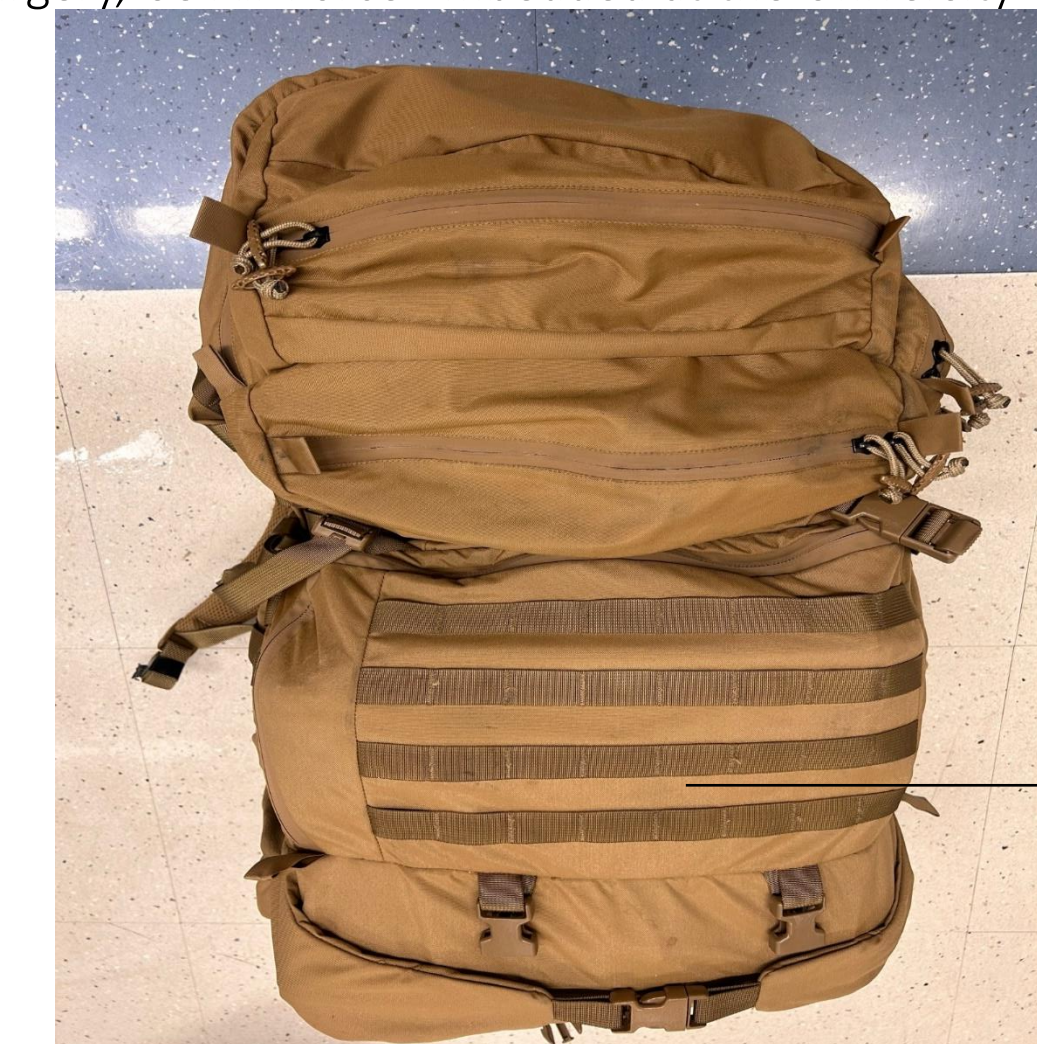
Table 1: Finalized Medications for the Prolonged Field Care Kit



Figure 1: Finalized medications packed in 2 clamshells (PFAK). Final weight= 20 pounds



Figure 2: Open view of Clamshell 1



PFAK Compartment in Military Backpack

Figure 3: PFAK packed in Military Backpack

Summary

- A total of 14 medications and 5 adjuncts were narrowed down for PCC via Delphi and expert panel surveys.
- The weight of the final product was 20 pounds
- The PFAK is versatile with the ability to be modified based on the needs of the battlefield..

Conclusions/Future Directions

- Providing efficient PCC is limited by weight restrictions in military dismounted operations. Using a Delphi Survey approach, we have shortlisted the optimal medications and adjuncts that can be used to deliver effective PCC.
- **Future Directions:** Conduct a range of field testing and simulation studies to tests the effectiveness of the PFAK

Acknowledgement

This work was funded by The U.S. Army Medical Research and Development Command, Fort Detrick, Maryland 21702-5012, Award Number: W81XWH-22-2-0060

References

1. Damage Control Resuscitation (DCR) in Prolonged Field Care (PFC) 2018 [cited 2024 1/30/2024]. Available from: https://its.amedd.army.mil/assets/docs/cpgs/Damage_Control_Resuscitation_PFC_01_Oct_2018_ID73.pdf.
2. Traumatic Brain Injury Management in Prolonged Field Care: Joint Trauma System; 2017 [cited 2024 1/30/2024]. Available from: https://its.amedd.army.mil/assets/docs/cpgs/Traumatic_Brain_Injury_PFC_06_Dec_2017_ID63.pdf.