

# Implementation of WHO's Community-Based First Aid Response (CFAR) Program in Southwestern Guatemala

Daewoong Kim, Andrew Levy, Dr. Emilie Calvellido-Hynes

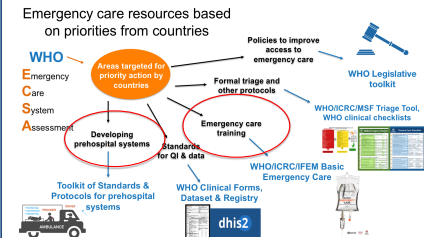
## Introduction

Initial stabilization and expedient transfer of acutely ill-patients is a critical first step in delivering proper emergency care. This is a problem in many lower income class countries, where physical and financial constraints prevent citizens from accessing medical care in emergent situations.<sup>1</sup>

Medical emergencies are often first witnessed by community members. With the proper training, they can deliver life-saving interventions before a patient is transferred to a hospital. The WHO has recently created the Community First Aid Responder (CFAR) program, a 5-day training course that equips community members with such skills and knowledge to administer immediate medical care in these emergency situations.

CFAR has been implemented with success in various parts of sub-Saharan Africa, but never in a Spanish-speaking country.<sup>2,3</sup> The remote and rural regions surrounding El Trifinio, Guatemala was a promising location to pilot a Spanish version of CFAR.

## Problem Statement



The WHO has deemed community training and education instrumental in managing emergency situations in austere settings.<sup>4</sup> The graphic above shows the framework proposed by the WHO as an integrated multi-system approach to bolstering emergency care. Circled in red are the categories represented by CFAR.

CFAR has never been validated outside of the regions of sub-Saharan Africa. It is proposed as a standardized, open-access course endorsed by the WHO, but lacks robust external validity. Its effect on morbidity, mortality, and patient outcomes has never been studied.

## Goals

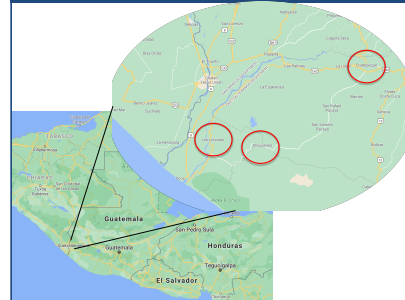
Our goal was to implement CFAR for the first time in a Spanish speaking country in the Southwestern rural region of Guatemala. This site was chosen based upon a needs assessment performed by Dr. Kimberly Hill in 2014 highlighting the prioritized need of training its community members in delivering emergency care.

The priority was to create a sustainable, affordable, and effective model of CFAR which the local community can own, modify, and utilize to benefit its citizens.

Post-intervention observations would include the necessary context-appropriate changes, challenges and successes with implementation. All findings would be fed back to the WHO.

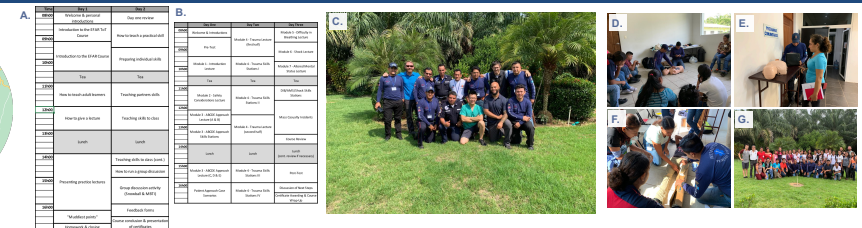
The important question was to what degree our qualitative observations and data collecting would reveal about the generalizability, feasibility, and appropriateness of CFAR in its broad application to various international settings outside of Africa.

## Methods



Chiquirres, La Blanca (Los Limones), and Coatepeque in Guatemala

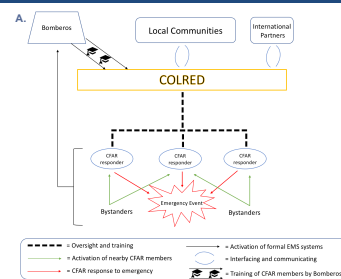
The Southwestern region of Guatemala is the site of the project. The village of Chiquirres (circled) is the center of the neighboring rural regions and principal site of CFAR implementation.



Figures A-G

- Proposed 2-day Trainer of Trainers (ToTs) schedule. International partners deliver this course to local potential trainers. Emphasis is placed on teaching skills, becoming familiar with the course, and skills review.
- Proposed 3-day CFAR schedule. The course is divided into didactic and skills stations. It is designed to cover the basics of the wide breadth of commonly encountered emergency situations. All materials to repeatedly implement this course were provided free of charge by the international partners.
- The first Training of Trainers of local firefighters from the regions of La Blanca and Coatepeque.
- Images of the first CFAR implementation. Participation of hands-on skills courses can be seen, led entirely by local CFAR trainers. Post-intervention surveys, in-depth interviews, and focus groups were held with various participants and trainers of the course to assess for perspectives, opinions, and priorities regarding CFAR.

## Results



Graphic A shows the model of CFAR ownership and delivery embraced by these communities. COLRED, an endorsed local branch of a national volunteer emergency response network act as the governing body that implements and manages CFAR in accordance to the needs and priorities of their communities.

COLRED interfaces with its international partners regarding technical support from abroad. It coordinates with the local bomberos to deliver CFAR to its community members. They will keep a record of CFAR trainees, continue providing feedback with each implementation, and overall manage the logistics of CFAR.

COLRED can be visualized in graphic B as the community members dressed in orange vests talking with the bomberos of La Blanca. A joint decision was made between these stakeholders regarding their respective roles pertaining to CFAR.

Post-intervention interviews, focus groups, and surveys with all local stakeholders revealed an overall positive reception towards CFAR. It also emphasized the importance of proper community ownership and support in maintaining the program. Minimal concerns were made regarding the course material, but most doubt and questions revolved around logistical operations, financial support, and maximizing utility of CFAR given resource constraints.



## Acknowledgements

We would like to acknowledge and thank the following: first and foremost, the community members of Chiquirres, La Blanca, Coatepeque, and surrounding areas for their dedication to this project; the firefighters of La Blanca and Coatepeque who were instrumental in the implementation of CFAR; Dr. Antonio Bolanos for his dedication to this community; Luke Sky and Joel Vaughn for their assistance; and Dr. Calvellido Hynes for her commitment to our success and her wisdom in guiding us through to the end.

## Disclosure

The authors of this paper have no conflicts of interest, monetary or otherwise, to disclose. Funding came from the Rotary International Scholarship and Student Funded Leadership award. Housing provided by the Funsalud clinic.

## Conclusion

Implementation and maintenance of a community-based prehospital system is a highly complex and multi-faceted task that must always remain community-centered.

If CFAR is to be offered by the WHO as an open-access and standardized educational program, the authors recommend large additions to CFAR that inform best implementation practices. These may include an emphasis on robust needs assessments, consideration of local resources and technologies, encouraging data collection to inform rate and location of training delivery, etc.

Ultimately, such recommendations and updates should continually be informed by ongoing evidence and experience.

## Future Directions

- Further evolve and develop CFAR in the Southwestern rural region of Guatemala in collaboration with our local partners.
- Augment and bolster other links in the "chain of survival" to better understand the impact of CFAR in the context of systemic emergency care delivery.
- Consider context and resource appropriate models to measure quantitative outcomes of morbidity, mortality, or first-aid respond times.
- Continue to feedback findings and suggestions to the WHO to expand and deepen the CFAR curriculum to allow for robust, generalizable, and ethically appropriate implementations in various international settings.

## References

- World Health Organization. (2014). Injuries and violence: the facts 2014
- Henry, J. A., & Reingold, A. L. (2012). Prehospital trauma systems reduce mortality in developing countries: a systematic review and meta-analysis. *Journal of trauma and acute care surgery*, 73(1), 261-268.
- Sun, Jared & Wallis, Lee. (2011). The emergency first aid responder system model: Using community members to assist life-threatening emergencies in violent, developing areas of need. *Emergency medicine journal* : EMJ. 29. 673-8. 10.1136/emmermed-2011-200271.
- World Health Organization. (2019). Emergency care systems for universal health coverage: ensuring timely care for the acutely ill and injured