Prehospital Trauma Care in Lima: Challenges Identified by Trauma Patients and Providers

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Background

- In low and middle-income countries, various factors can impact the **timeliness and quality** of prehospital trauma care[1]
- A substantial proportion of emergency patients in LMICs rely on **commercial and private transportation** to reach hospitals[2]
- Patients who receive care through a prehospital system experience **25% lower mortality** compared to those treated directly at a first hospital[3]
- The specific aim of this needs assessment is to **identify areas for improvement** and develop targeted interventions to enhance prehospital care delivery **in Lima, Peru**

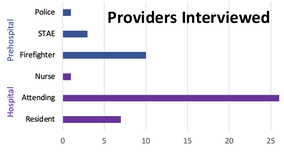
Methods

- **A mixed-methods study** spanning four urban trauma hospitals
- **Semi-structured survey-based interviews** were performed with trauma patients
- Semi-Structured **qualitative interviews** were conducted with **providers who care for trauma patients**
- Participants recruited with **purposive and snowball sampling**
- Results were analyzed with **descriptive statistics**, and direct **quotes were collected**

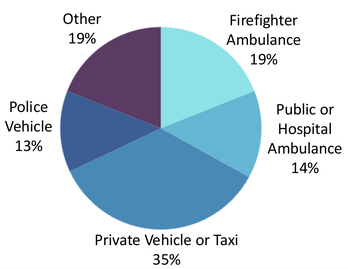
Quantitative Results

Patient Demographics
Male: 80%
Female: 20%
Average age: 40 years old

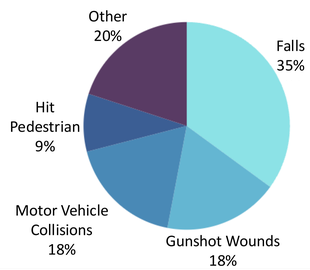
Provider Demographics
Male: 71%
Female: 29%
Average age: 39 years old



Most Common Transportation Methods



Most Common Mechanisms of Injury



*SAMU = Sistema de Atención Móvil de Urgencias (ambulance)
**STAE = Subgerencia de servicio de transporte asistido de emergencia (ambulance)

Qualitative Results

KEY THEME	QUOTES
Health System Fragmentation	"**There is not adequate coordination** between the different types of systems that we have, whether it is SAMU [ambulance], STAE [ambulance] or private [ambulance]" 35M, surgeon "So, for example, something that I have seen is that if there is an emergency, for example, someone is run over or an accident [happens], an ambulance from **SAMU can arrive, an ambulance from the firefighters can arrive, an ambulance from the municipality can arrive and, in the end, only one takes the patient** and the others kind of just went there and returned." 32M, firefighter
Resource Limitation	"Many of us firefighters buy our equipment. If you want trauma scissors, for example, I buy them myself. They're not in the ambulance. **If I want some firefighter equipment, I buy it myself**, because if the state gives it to me, it takes a long time." 38M, firefighter, EM resident "We have a lack of space. We have the great difficulty that we do not have space. **We only have space for the initial care of one complex patient**. If two complex patients were to arrive, we would no longer have space." M, surgery resident
Inadequate Training	"Firefighters are not health personnel, well, firefighters here are volunteers, it's voluntary. They don't pay us, although within the firefighter courses you receive some training regarding the pre-hospital emergency management part of healthcare. **It's something very basic**, very very basic, right?" 38M, firefighter, EM resident "Generally in the SAMU ambulances, there is a general practitioner who is trained for this type of traffic accident patients who have trauma and **are trained with the ATLS protocol, unlike the firefighters**, who do not have this level of training on how to manage trauma patients." 34M, surgeon
Public Awareness and Education	"**I didn't know the number for the ambulance** because I don't live in that zone. A friend who has a mototaxi brought me because it was faster." 52M patient, fall "**People do not respect sirens**, so no one moves over to give way to an ambulance. If an ambulance is coming, the other vehicles go behind it to get through faster or someone is going to block the ambulance and not let it through. **The first thing is education**." 57M, surgeon
Delays in Care	"My sister called and not a single ambulance came...she called the ambulance **but after 20 minutes it didn't arrive**, so the people [in the street] said to bring me by car" 61M, patient, crush "I was scared for my health, **the taxi was faster**; it was the worst thing in my life" 24M, patient, GSW

Discussion

Our needs-assessment revealed **multiple intervenable areas** in the prehospital experience for trauma patients in Lima

- Fragmented system leads to **poor communication** and resource allocation
- **Inconsistent training** and equipment limitations cause **varied prehospital interventions**
- **Ambulance delays** have increased reliance on alternative emergency vehicles
- Limited public awareness and **lack of right-of-way etiquette** exacerbate delay in care

Future Work

Insights from trauma patients and providers will be combined for the **iterative creation and implementation of targeted interventions with our Peruvian partners** in Lima

- **Increasing public education**
- Developing a **unified coordination system**
- **Standardizing training** for prehospital providers
- Improving hospital **communication and handoff**

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