Poster Showcase

#IAEM24

Citations:

Investigation of AI in Michigan Dispatch Centers: Opportunities, Barriers, and Implementation

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Non-Competitive Division

Introduction

- AI is beginning to be used to assist with non-emergency calls [1-2]
  - ~ 10,000 lives could be saved annually if callers are reached even 1 minute faster [3]
- Some ways being utilized [4-8]:
  - Filtering/transferring (e.g., call trees)
  - Identifying key words in calls
  - Transcribing radio
  - Translating languages
- Missing:
  - While EM attitudes are beginning to be considered in AI deployment [9], a lack of overall practitioner-driven insights remains to inform AI solutions, address barriers, and guide ethical implementation [9]

Motivation - *Issues for Emergency Telecommunicators*

Research Objectives & Question

- Objectives:
  - To explore how insights from practitioners can inform the development of AI models for effective, equitable implementation.
  - To identify potential barriers to AI implementation in emergency dispatch systems.
- Research Question:
  - What are the potential opportunities and barriers to implementing AI effectively and equitably in emergency dispatch systems?

Research Design

Phase 1: **Virtual Interviews**

60 min.

150+ Contacted

19

10 W, 9 M

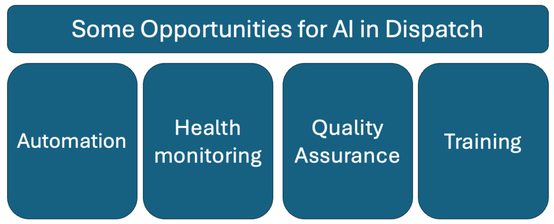
12 to 35+ years

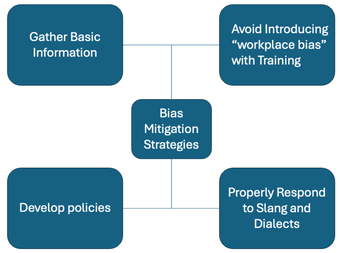
[10]

Interview Questions

Question Design
Background of Interviewee (Demographics & Experience)
Infrastructure (Current System(s) & Dispatch Protocols)
AI Implementation (Sentiments & Suggestions)

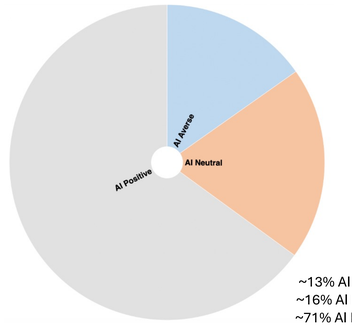
Content Analysis of the Interview Responses





Barriers/difficulties	
Caller perceptions of an emergency or not	Inability to describe scene or location (e.g., visitors)
Certain protocols can be restrictive (i.e., desire to talk more)	Lack of knowing ways to engage 911 (e.g., text to 911, admin lines, etc.)
Cyber threats	Language and culture
Funding	Signal disruption or call distortion
Generational/age gaps (e.g., underutilizing 911 to "not bother" them)	Staffing

AI Sentiments



~13% AI Averse
~16% AI Neutral
~71% AI Positive

Next Steps

NVIVO +

Phase 2: **Modeling**

- Data Acquisition Metrics/Benchmarks
- Task: Quality Assurance
- Fairness Testing

Conclusions: Path Forward

- **Step 1) Move toward standardization** → Different emergency dispatch and operations areas need to come together to begin standardization of some protocols.
- **Step 2) Education** → gain support from the public and emergency telecommunicators on utilizing AI (don't want to lose certain demographics or experienced dispatchers) & public safety industry should understand how AI is built to ensure bias is not being embedded.
- **Step 3) Work with vendors** → build around telecommunicators concerns, limit additional technologies (i.e., better integration of infrastructure), and make user friendly.
- **Step 4) Include multiple perspectives** → need insights from emergency telecommunicators, administration and leadership of emergency operations, engineers, software developers, sociologists, health professionals, and more.

Additional Collaborators
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