

Introduction

Pre-hospital telecommunications (patches) are a specific type of conversation between two people used.

Receiving and processing information correctly is critical for termination of resuscitation.

Analysis of data from a study of paramedic-physician telecommunications revealed that patches had a common structure.

Understanding patch structure allows manipulation of the patch process to improve telecommunication used for critical clinical decisions.

Objective

Determine the structure of paramedic-physician patches during out of hospital cardiac arrest calls when paramedics were seeking termination of resuscitation (ToR) orders.

Participants

Advanced Care and Primary Care paramedics from 4 paramedic services (Grey, Bruce, Huron, and Perth Counties) in south west Ontario, Canada.

Base Hospital Physicians who provide on-line medical oversight during ambulance calls.

Methods

Retrospective analysis of all ToR patches recorded by the Central Ambulance Communication Centre between physicians providing on-line-medical-control and paramedics from 4 paramedic services between January 01 and December 31, 2014.

Three services had Primary Care Paramedics (PCP) and 1 service had PCP and Advanced Care Paramedics (ACP).

MP3 patch recordings were transcribed by 2 authors.

Anonymized transcripts were read multiple times and analyzed using mixed methods quantitative descriptive statistics and coded to allow for qualitative thematic framework analysis.

The Importance of Structured Ambulance Radio Patches **During Termination of Resuscitation Calls**

D. Eby MD PhD^{1,2,3}, J. Woods BHSc¹

¹Southwest Ontario Regional Base Hospital Program, London Health Sciences Centre, London, Ontario ²Division of Emergency Medicine, Department of Medicine, Western University, London, Ontario ³Grey Bruce Health Services, Owen Sound, Ontario



Results

et				
n Patches (PCP 120, ACP 7)	Medical Cause of VSA - Pres	umed Cardiac	Traumatic (Cause of VSA
sis: Patch Structure Observations	Patient ≥ 18 years of age No palpable pulse Arrest not witnessed by EMS No shocks delivered No return of spontaneous circulation at any time		Patient <u>></u> 16 years of age No palpable pulse No shock delivered Heart rate 0 or if > 0, and <u>></u> 30 minute transport to closest Emergency Department	
Paramedic and Physician introduce themselves - establish who is talking to whom - physician frequently assumes paramedic knows who they are talking to	Table 1: Patch Word Count and Length in Standard vs. Non Standard Structure			
Paramedic presents the clinical data - paramedic fails to present enough data to confirm ToR criteria 55.2% of time - most common missing criterion is "cardiac origin" of being		Total	Words in Patch	Length of Patch (seconds)
VSA (missing in 44% of all patches Average number of words 81 (95Cl 74,88)	Standard Structure Patch	116 (91.3%)	234 (CI95 216,252)	286 (Cl95 240,332)
Physician asks for more details in 78% of cases Frequently asks for information already given or information that is not necessary to fulfill the ToR criteria	Non-standard Structure Patch	11 (8.7%)	558 (Cl95 519,598)	654 (Cl95 518,791)
Straight forward	Table 2: Patch Word Count and Length when Physician Seeks Clarification of Data			
Physicians sought more clinical / context details in 13% of the cases AFTER they made the decision to terminate			Words in Patch	Patch Length (seconds)
resuscitation - appear to be working out a justification for the decision See Table 2 for consequences	Total		567 (CI95 530,604)	238 (CI95 221,255)
Exchange names, spelling, numbers, times, body disposition details Frequent repeats of information, clarification, difficulty	Physician seeks clarification before ToR decision	yes	590 (CI95 548,633)	246 (CI95 226,266)
will spelling, hearing numbers Average words used 200 (95Cl 172,228) = 35% of		no	479 (CI95 403,555)	207 (CI95 177,238)
average patch length - often before termination decision is told to partner to stop CPR	Physician seeks further clarification AFTER ToR decision	yes	551 (CI95 630,872)	311 (CI95 261,361)
 Usually straight forward 		no	538 (CI95 501,575)	227 (CI95 209,244)

Conclusions

The most common patch structure consisted of participant introduction, data presentation, clarification of data, making the clinical decision, exchange of administrative information, and a sign off

Deviation from this patch structure resulted in significantly longer patches.

Patching paramedics were unavailable to assist with patient care 25% longer when an unusual patch structure occurred



Termination of Resuscitation Criteria