



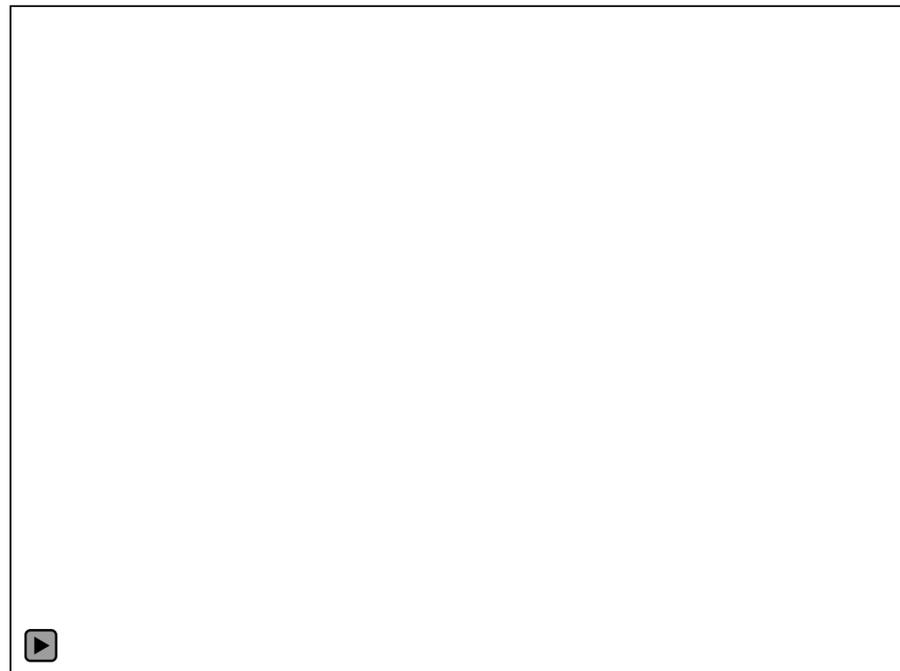
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**schio clinico nel  
nsegne e della  
paziente in DEA**

*Pierpaolo Parogni*  
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**Quali evidenze scientifiche ?**



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### Clinical handover of patients arriving by ambulance to the emergency department – A literature review

Nerolie Bost RN, MN (Research Nurse Officer) <sup>a,\*</sup>,  
Julia Crilly RN, MN (Hons), PhD (Nurse Researcher) <sup>b</sup>,  
Marianne Wallis RN, BSc (Hons), PhD (Chair) <sup>c</sup>,  
Elizabeth Patterson RN, BSc, GradDipNursSt, MHSc(N), PhD (Professor,  
Head of School) <sup>d</sup>, Wendy Chaboyer RN, BSc(N), MN, PhD (Director) <sup>e</sup>

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- L'emergenza-urgenza (in particolar modo extrospedaliera) pone delle sfide aggiuntive all'ottenimento di un processo di handover ottimale
- Necessario risolvere i maggiori ostacoli perché il processo di handover sia efficiente ed efficace

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Table 2 Models, frameworks and guidelines of clinical handover utilised within hospital settings.

Standardised format	Acronym	Setting	Author, date, country	Use for ambulance to ED handover	Disadvantages for ambulance to ED handover
Mechanism of injury, injury sustained, signs, treatment given (ED)	MIST	Recommended for use in ED for handover of critical patients from ambulance to ED	Hodgetts et al., 1997, UK	May be useful for trauma and critical patients	Limited use for non-critical patients unless used with flexibility so as to include extra information for ongoing planning and management
Confidential, uninterrupted, brief, accurate, named nurse (ED)	CUBAN	Recommended for use in nurse to nurse handover	Currie, 2002, UK	The brief guidelines are useful in all types of handovers	Limited use Requires more detail May be
Multidisciplinary handover protocol Defines: leadership, task sequence, task allocation, predicting and planning, discipline, checklists, briefing, situation awareness, training and review meetings (paediatric ICU)	N/A	Trialled in the intensive care paediatric setting	Catchpole et al., 2007, UK	May be useful in the trauma room where team member roles can be clearly defined	No disadvantage identified Predicting, planning and situation awareness maybe more beneficial for the ED staff in ongoing treatment of a critical patient

guidelines are practiced. The recommendations identified in the review such as standardising the handover process, providing an opportunity for the receiving care team to gain clarification and identifying points at which handover of responsibility and accountability occur have not been fully evaluated. Given the high volume of interactions between



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*Emergency Medicine Australasia* (2009) 21, 102–107

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doi: 10.1111/j.1742-6723.2009.01168.x

ORIGINAL RESEARCH



## Lost in translation: Maximizing handover effectiveness between paramedics and receiving staff in the emergency department

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**Objective:** The purpose of the present study is to investigate perceptions by paramedics and hospital and constrains handover in the ED.

### Results

The three core themes used in the present paper were selected because they were pervasive across all three participant groups and both sites. These were:

- Difficulties in creating a shared cognitive picture
- Tensions between 'doing' and 'listening'
- Fragmenting communication – 'Chinese whispers'

Although the recent Australian Medical Association guidelines on clinical handover acknowledges that 'the style of handover will vary depending on local need', it recommends that 'all types need a predetermined format and structure to ensure adequate information exchange'.<sup>2</sup> A predetermined format also reduces the likelihood of information being distorted as it moves between health professionals. The results reported here

### Conclusion

'The aim of any handover is to achieve the efficient communication of high quality clinical information at any time when the responsibility for patient care is transferred'.<sup>1</sup> Our findings indicate that although paramedics and receiving staff in the ED recognize the importance of effective handover, there are a number of factors that result in a variable quality of handover. We recommend that paramedics and emergency receiving staff should consider the adoption of a standardized approach to handover.



**Background:** Ambulance services play an important role in the healthcare system when it comes to handling accidents or acute illnesses outside of hospitals. At the time of patient handover from emergency medical technicians (EMTs) to the nurses and physicians in emergency departments (EDs), there is a risk that important information will be lost, the consequences of which may adversely affect patient well-being. The study aimed to describe healthcare professionals' experience of patient handovers between ambulance and ED staff and to identify factors that can affect patient handover quality.

**Table 2** Overall analytical model

**Overarching theme**

Professional patient handover through clear patient responsibility, structured communication procedures and quality teamwork

**Main themes**

	Leadership	Structured framework			Professional competencies		Collaboration	
<b>Subthemes</b>								
Professional responsibility	Handover of responsibility	Prehospital reporting	Face-to-face communication	Written reports	Training	Attitudes	Team awareness	Learning environment
<b>Codes</b>								
Shared responsibility	Floating timepoints	Structured	Short and precise	Precise	Education	Disrespect	Teamwork	Debriefing
Leading professional	Floating locations	Concise	Formal communication	Complete	Experience	Arrogance	Continuity of care	Feedback
Responsibility for own work	Process	Accurate	Active listening	Valuable	Patient volume	Mistrust	Team members	Continuing education
	Presence of profession	ED preparedness	Undisturbed attention			Interest in patient cases	Handover procedures	



**Prehospital reporting**

Most of the participants stated that the quality and preparedness of patient handover depended greatly on the flow of information from the EMTs to the ED healthcare professionals before the patient's arrival. The participants from all three professions described the need for more structure and improvement in the provision of prehospital reporting.

The EMTs were aware of the importance of structured targeted telecommunications that would help them prepare to receive the patient, including gathering together suitable staff.

**Conclusions**

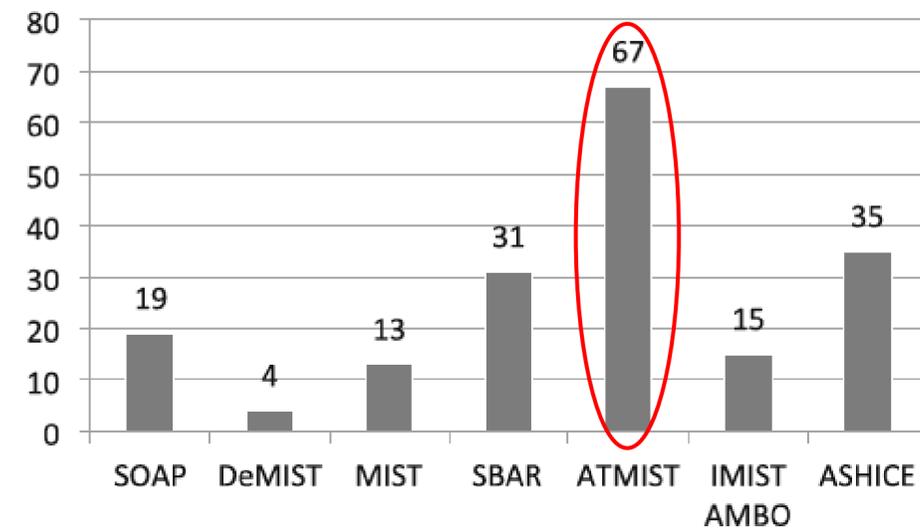
The present study's main finding was that a lack of structured communication procedures and feedback as well as ambiguity about patient responsibility in patient handovers from EMTs to ED healthcare professionals may compromise patient safety. Promoting accountabil-



**Table 1** Key areas of questioning with scales/unit of measurement

Question/statement	Scale/Unit of measurement
• Perceived effectiveness of handover	1 – not at all effective to 5 - very effective
• Confidence that you have provided all essential information during handover	1 – not at all confident to 5 – very confident
• Confidence that you have received all essential information during handover	
• Importance of patient involvement in handover process	1- not important to 5 – very important
• <u>Importance of a structured handover</u>	
• Importance on mutually agreeing a handover time and location	
• Perceived essential variables for handover	List of variables
• Recording and delivery of information	
• <u>Preferred mnemonic for prehospital handover</u>	
• How professional acknowledges receipt of information	
• Acknowledging receipt of information	1 – never to 5 – always
• How often the patient is involved in the handover process	
• <u>Barriers to effective handover</u>	
• Repeating information during handover	
• Barriers to effective handover (how often they impact)	
• Difficulty in finding time to prepare and deliver handover	1 – very difficult to 5 – very easy
• <u>Timing of handover</u>	Time in minutes

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**Fig. 2** Mnemonic preference



**Table 3** Perceived barriers to prehospital handover

Variable measured (listed in order of frequency)	All Mean (Standard Deviation)	Road Crews (Standard Deviation)	Specialist Teams	All Median (IQR)	Road Crews (n = 116) Median (IQR)	Specialist Teams Median (IQR)	Difference between Groups p value (U)
Interruptions	3.26 (.813)	3.21 (.818)	3.35 (.801)	3.00 (2-3)	3 (2-3)	3 (3-4)	.224
Variability in handover mnemonic	3.09 (.953)	2.97 (.950)	3.28 (.929)	3.00 (2-4)	3 (2-4)	3 (3-4)	.034*
Lack of co-ordination between responders	3.09 (.761)	3.04 (.773)	3.16 (.741)	3.00 (3-4)	3 (3-4)	3 (3-4)	.222
Lack of structured process	3.07 (.879)	2.95 (.863)	3.26 (.877)	3.00 (2-4)	3 (2-4)	3 (3-4)	.022*
Lack of clear professional lead	3.01 (.813)	2.94 (.816)	3.11 (.804)	3.00 (2-4)	3 (2-3)	3 (3-4)	.141
Poor verbal communication	2.97 (.856)	2.90 (.882)	3.08 (.807)	3.00 (2-3)	3 (2-3)	3 (3-4)	.090

**Conclusion:** While, overall, current prehospital handover practice is perceived as effective this study has identified a number of areas for improvement. These include the development of a shared mental model through system standardisation, innovations to support information recording and delivery, and the clear identification at incidents of a handover lead. Mnemonics must be carefully selected to ensure they explicitly contain the perceived essential clinical variables required for prehospital handover; the mnemonic ATMIST meets these requirements. New theoretically informed, evidence-based interventions, must be developed and tested within existing systems of care to minimise information loss and risk to patients.

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Original research

## **Design and trial of a new ambulance- to-emergency department handover protocol: 'IMIST-AMBO'**

Rick Iedema,<sup>1</sup> Chris Ball,<sup>1,2</sup> Barbara Daly,<sup>3</sup> Jacinta Young,<sup>4</sup> Tim Green,<sup>5</sup>  
Paul M Middleton,<sup>6</sup> Catherine Foster-Curry,<sup>7</sup> Marea Jones,<sup>6</sup> Sarah Hoy,<sup>8</sup>  
Daniel Comerford<sup>8</sup>

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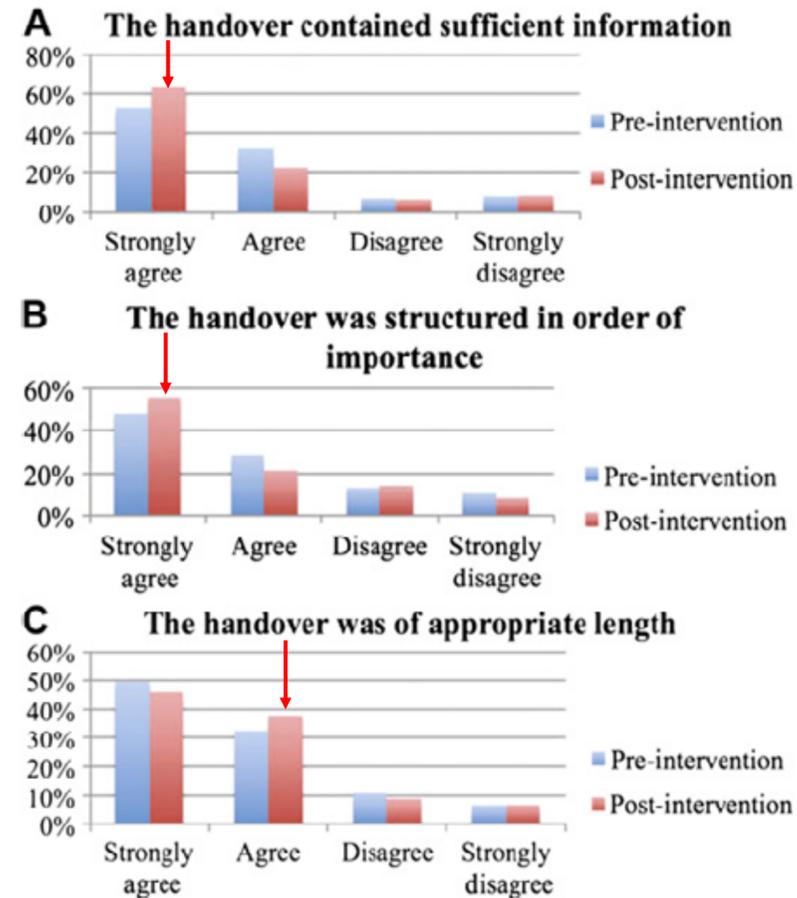


**Background:** Information communicated by ambulance paramedics to Emergency Department (ED) staff during handover of patients has been found to be inconsistent and incomplete, and yet has major implications for patients' subsequent hospital treatment and trajectory of care.

**Aim:** The study's aims were to: (1) identify the existing structure of paramedic-to-emergency staff handovers by video recording and analysing them; (2) involve practitioners in reflecting on practice using the footage; (3) combine those reflections with formal analyses of these filmed handovers to design a handover protocol; (4) trial-run the protocol; and (5) assess the protocol's enactment.

**Table 3** Questions asked and information provided

	Pre-intervention		Post-intervention	
	Raw number	Percentage	Raw number	Percentage
Times questions are asked during handover	68 of 73	93	26 of 64	41
Questioning already given information	26 of 68	38	4 of 26	15
Times paramedic will repeat info post-question	13 of 68	19	2 of 26	8



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**CONCLUSION**

Standardisation of the paramedic-ED staff communication interface led to improvements in how information was relayed by the paramedic, the amount of information that was relayed, the time it took to relay the information, the number and type of questions asked about the information handed over, and ED clinicians' perception of paramedics' IMIST-AMBO. The fit between original



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## **Clinical Handover between Paramedics and Emergency Department staff; SBAR and IMIST-AMBO acronyms**

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*Mr Yugan Pillay, Consultant Paramedic, Hamad Medical Corporation Ambulance Service, Doha, Qatar.*

**Corresponding author: [yshah@hamad.qa](mailto:yshah@hamad.qa)**

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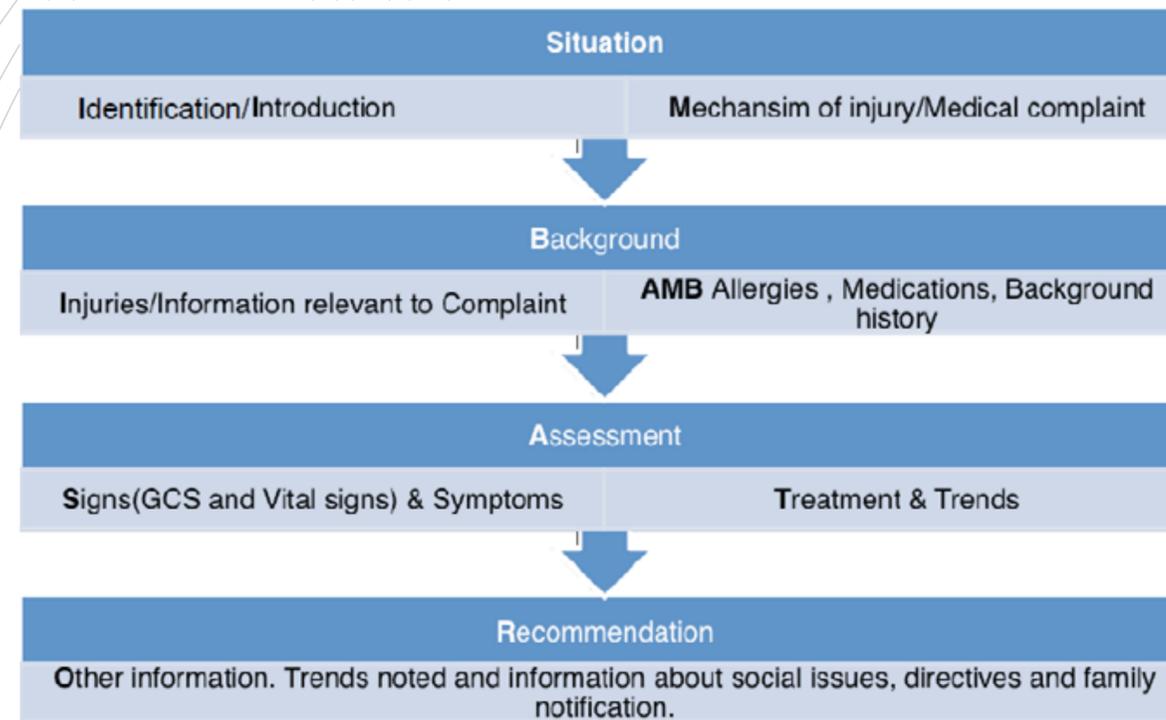
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Each letter in the IMIST-AMBO tool prompts the paramedic to provide ED staff a specific set of information about a clinical case that is essential to convey (Table 2), while not clouding the clinical handover with other unnecessary information. Furthermore, IMIST-AMBO has been specifically designed for the paramedic to ED staff clinical handover interface. It is currently being rolled out for use by Hamad Medical Corporation Ambulance Service paramedics with all ED departments across Qatar.

One concern is that IMIST-AMBO might not align with the expectation of the ED staff since SBAR is frequently used as a communication framework among doctors and nurses within the hospital setting (Loseby, Hudson and Lyon 2013, Riesenber, Leitzsch and Little 2009). A closer look at both tools side by side clearly shows that IMIST-AMBO is essentially a breakdown of the four components of SBAR, although in a slightly different sequence (Figure 1).

**SO.....SBAR vs IMIST-AMBO ?**





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Protocol for the clinical handover  
of ambulance patients in the ED

June 2014

health



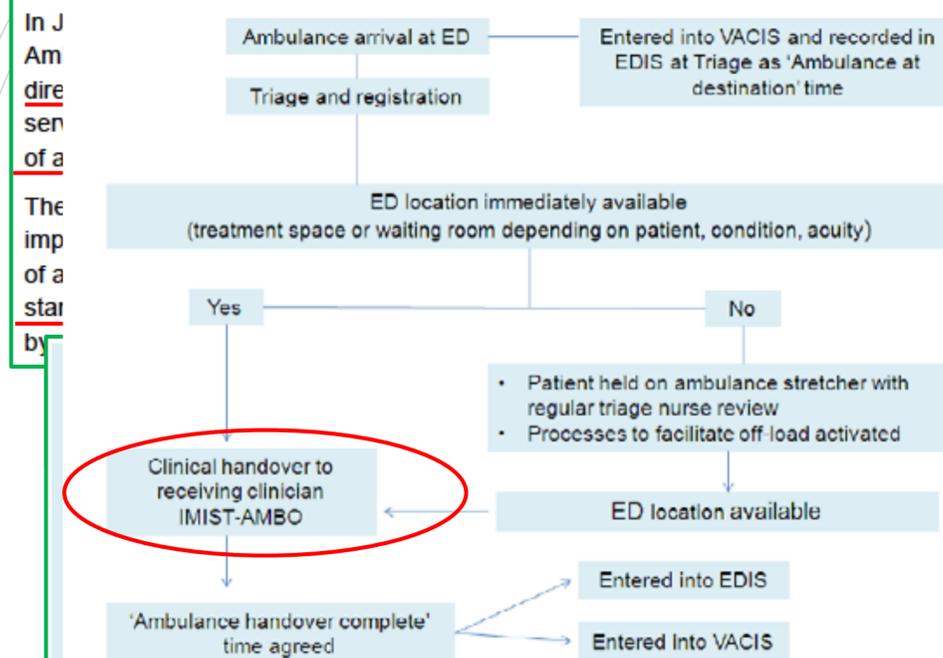
**Ambulance  
Victoria**

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Ba Clinical handover process map



Clinical handover protocol

Ambulance paramedics and hospital staff have a shared responsibility for ensuring effective, high quality communication of relevant clinical information at clinical handover.

Model of clinical handover

Many models of clinical handover (sometimes referred to as structured handover tools) exist in Victoria, nationally, and internationally.

The IMIST-AMBO model was selected by the sector working group for use by Victorian health services and AV when communicating clinical handover of ambulance patients in the ED.

The IMIST-AMBO model should be followed during clinical handover of ambulance patients in the ED irrespective of IT systems in place at health services



3.3. Routine handover:

3.3.1. Use a standard mnemonic IMIST-AMBO (Appendix B) to ensure all essential information is communicated and that Pre-hospital practitioners can use the same approach in all EDs.

3.3.2. The IMIST-AMBO approach allows a natural break in the handover. Encourage questions at the end of "IMIST" and again after the "AMBO" information has been given.

Resuscitation/unstable patient handover:

3.1. The receiving ED will receive an ASHICE (Appendix A) message from the Ambulance Service Provider for patients meeting national agreed "pre-alert" criteria.



The model includes:

<b>I</b>	Identification (e.g. patient's name, age, sex)
<b>M</b>	Mechanism of injury or Medical complaint (e.g. presenting problem, how it happened)
<b>I</b>	Injuries or Information related to the complaint (e.g. symptoms and/or injuries)
<b>S</b>	Signs (e.g. vital signs, such as HR, RR, BP, Temp, BGL, GCS, etc.)
<b>T</b>	Treatment and Trends (e.g. treatment administered and patient's response to treatment, trends in vital signs)
<b>A</b>	Allergies
<b>M</b>	Medications (e.g. patient's regular medications)
<b>B</b>	Background history (e.g. patient's medical history)
<b>O</b>	Other information (e.g. social, scene, relatives present, EAR result).

• From PreH leader → ED leader

ASHICE

• From the Socc. → ED receiving

A mnemonic acronym used...

<b>A</b>	Age	+
<b>S</b>	Sex	+
<b>H</b>	History	+
<b>I</b>	Injuries/Iness	+
<b>C</b>	Condition	+
<b>E</b>	ETA Estimate time of Arrival	+



## Considerazioni finali

- Studi letteratura → necessità di avere uno metodo di handover
- Mnemonico e standardizzato
- «Tailored»
- Scopo principale → continuità e **sicurezza** delle cure



## Considerazioni finali

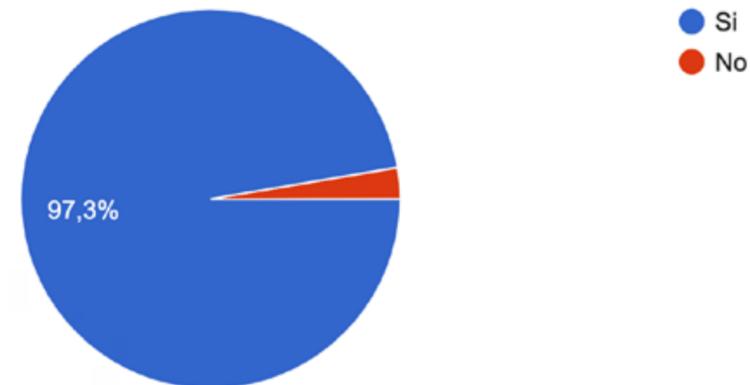
- L'utilizzo di strumenti standardizzati e mnemonici
  - **ridurre la durata dell'handover**
  - **aumento** appropriatezza delle informazioni trasmesse
  - Minimizzazione trasmissione di informazioni non necessarie
  - Monitoraggio rischio clinico
- Nel peculiare contesto dell'emergenza-urgenza extraospedaliera si è dimostrata la necessità di scegliere uno strumento facile da ricordare, conciso, completo e «tailored» per l'handover.



Survey su Handover nel contesto dell'emergenza-urgenza

Pensi sia utile avere un metodo nel passaggio consegne?

188 risposte





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### **Delitti in materia di violazione del diritto d'autore (Art. 25-novies, D.Lgs. n. 231/2001) [articolo aggiunto dalla L. n. 99/2009]**

- Messa a disposizione del pubblico, in un sistema di reti telematiche, mediante connessioni di qualsiasi genere, di un'opera dell'ingegno protetta, o di parte di essa (art. 171, legge n.633/1941 comma 1 lett. a) bis)
- Reati di cui al punto precedente commessi su opere altrui non destinate alla pubblicazione qualora ne risulti offeso l'onore o la reputazione (art. 171, legge n.633/1941 comma 3)
- Abusiva duplicazione, per trarne profitto, di programmi per elaboratore; importazione, distribuzione, vendita o detenzione a scopo commerciale o imprenditoriale o concessione in locazione di programmi contenuti in supporti non contrassegnati dalla SIAE; predisposizione di mezzi per rimuovere o eludere i dispositivi di protezione di programmi per elaboratori (art. 171-bis legge n.633/1941 comma 1)
- Riproduzione, trasferimento su altro supporto, distribuzione, comunicazione, presentazione o dimostrazione in pubblico, del contenuto di una banca dati; estrazione o reimpiego della banca dati; distribuzione, vendita o concessione in locazione di banche di dati (art. 171-bis legge n.633/1941 comma 2)
- Abusiva duplicazione, riproduzione, trasmissione o diffusione in pubblico con qualsiasi procedimento, in tutto o in parte, di opere dell'ingegno destinate al circuito televisivo, cinematografico, della vendita o del noleggio di dischi, nastri o supporti analoghi o ogni altro supporto contenente fonogrammi o videogrammi di opere musicali, cinematografiche o audiovisive assimilate o sequenze di immagini in movimento; opere letterarie, drammatiche, scientifiche o didattiche, musicali o drammatico musicali, multimediali, anche se inserite in opere collettive o composite o banche dati; riproduzione, duplicazione, trasmissione o diffusione abusiva, vendita o commercio, cessione a qualsiasi titolo o importazione abusiva di oltre cinquanta copie o esemplari di opere tutelate dal diritto d'autore e da diritti connessi; immissione in un sistema di reti telematiche, mediante connessioni di qualsiasi genere, di un'opera dell'ingegno protetta dal diritto d'autore, o parte di essa (art. 171-ter legge n.633/1941)
- Mancata comunicazione alla SIAE dei dati di identificazione dei supporti non soggetti al contrassegno o falsa dichiarazione (art. 171-septies legge n.633/1941)
- Fraudolenta produzione, vendita, importazione, promozione, installazione, modifica, utilizzo per uso pubblico e privato di apparati o parti di apparati atti alla decodificazione di trasmissioni audiovisive ad accesso condizionato effettuate via etere, via satellite, via cavo, in forma sia analogica sia digitale (art. 171-octies legge n.633/1941).

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