Medical Dispatch Science: 
State of the Art in 2018

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Conflict of Interest

• None

Medical dispatch: a serious matter

«911»
Roles of Medical dispatch centres

• Value added for the patient (outcome)

• Value added to the care system (efficiency and safety)

Added value for the patient: T-CPR is #1

• Essential role of CPR and early defibrillation
• The more Cardiac Arrest patients benefit from CPR, the better the survival rate within a community
• T-CPR increases CPR rate; therefore it increases the survival rate


• Localisation of AEDs and first-responders by Apps

Bredon D, et al. Expanding the first link in the chain of survival: Experiences from dispatcher referral of callers to AED locations. Resuscitation 2016


Bystander’s window


The importance of the dispatcher’s window!

Dyslexic CPR

T-CPR: barriers

• Training
• Agonal breathing
• No – No – Go!
  • 50% false positive!
• To measure its performance (delay to recognize CA, to start CPR)
  Dami F, et al. Time to identify cardiac arrest and provide dispatch assisted cardio-pulmonary resuscitation in a criteria-based dispatch system. Resuscitation 2015
• 50% of the US PSAPs do not provide T-CPR for OHCA
  • Room for improvement to provide high performance T-CPR
Added value for the patient: prearrival instructions

- Aspirin
- Epinephrine
- Naloxone
- Glucagon
Added value for the system: efficiency & safety

• Crashes and fatalities occurring during emergency use

• Life threatening emergencies? [56]

• Dispatch: obligation to measure performance when using L&S (over and under-triage):
  • Benchmarking with severity assessed by EMS on the field
    Kahn, F. et al. Prehospital triage accuracy in a criteria based dispatch center EMS Oregon West. 2001
  • Benchmarking with other DCs, other systems

Added value for the system: merger of dispatch centres

• Dispatch centres (DCs): essential but expensive component of healthcare systems

• Difficulties to hire dispatchers, to teach them specific competence (prearrival instructions)

• No more need for proximity of DCs and centres of population

• Streamlining does not mean rationing! Quality may improve

• Reducing the number of DCs: controlling the high costs of these structures

• Possible to lower the number of dispatchers, especially during night-time.


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### Medical Dispatch Centres

<table>
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<th>Year</th>
<th>Population in millions</th>
<th>Number of medical dispatch centres</th>
<th>Average population in million</th>
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Futur: On the Technology side

- Videophone: help for triage, T-CPR
- Telemedicine
  - Better quality medicine?
  - Help for paramedics?
  - Help for EDs?

Futur: Good practices

- « Less is more » « Choosing wisely » « Smarter medicine »
  - Prehospital care: iv lines, what is necessary to do in the field vs what is not
  - Dispatch science: use of L&S, use of HEMS (primary and interfacility transfers)

Take home messages

- T-CPR is the greatest added value DCs can/must offer directly to patients
- DCs should endorse other pre-arrival instructions
- Use of L&S should be rigorously assessed
- DC’s must collect data and measure their activity to allow benchmarking (T-CPR, over/under-triage)
Thank you for your attention