

Advanced Triage to redirect non-urgent emergency departments visits to alternative care centers

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Table of contents

Emergency Department Overcrowding, Triage Systems and the Patient Safety.

Advanced triage and redirection procedures.

Perspectives.



Emergency Department Crowding, Triage Systems And The Patient Safety

Emergency Department Overcrowding and Patient Safety



**Emergency Department crowding is a
worldwide issue**



**Overcrowded services are associated
with adverse events and poor outcomes**



**Extreme situations
The « Corridor of shame »**

Hospital Triage Systems

Objective:

- = Improving the patient safety in overcrowded departments
- Defining severity/acuity
- Reduce time to first medical contact
- Avoid adverse events

Types:

- Empirical
- Computer-assisted systems
- Artificial intelligence-driven models

Problem:

- It doesn't fully solve the overcrowding
- Still too much visits to manage

Pre-hospital Triage Strategies

Right Time, Right Place, Right Care

Nurse Telephone Triage or Self-triage Applications to guide patients to the best location at the right time with the most appropriate healthcare practitioner
(defining the appropriate setting)

...but patients are still coming to the Emergency Departments...

Emergency Department crowding: why do patients walk-in?*

51% perceived severity
24% Accessibility
4.6% Specialized Care
4.2% stress
1% Costs
15% Others

Regulation of the unscheduled care in Belgium

Pre-hospital triage:

- * 1733 telephone triage (since 2019, OOH, before SALOMON algorithms in Liège area).
- * Several digital solutions in development.

Hospital triage in CHU Liège:

ELISA Triage scale.

Advanced Triage:

In 2016, the KCE suggested the implementation of primary care centers co-located with EDs.

These alternative care centers were only implemented by *local initiatives*.

Advanced Triage and Redirection Procedures

Redirection Strategies from EDs to alternative care centers

Which kind of redirection procedures?

Redirection of non-emergency patients to alternative primary care centers, either:

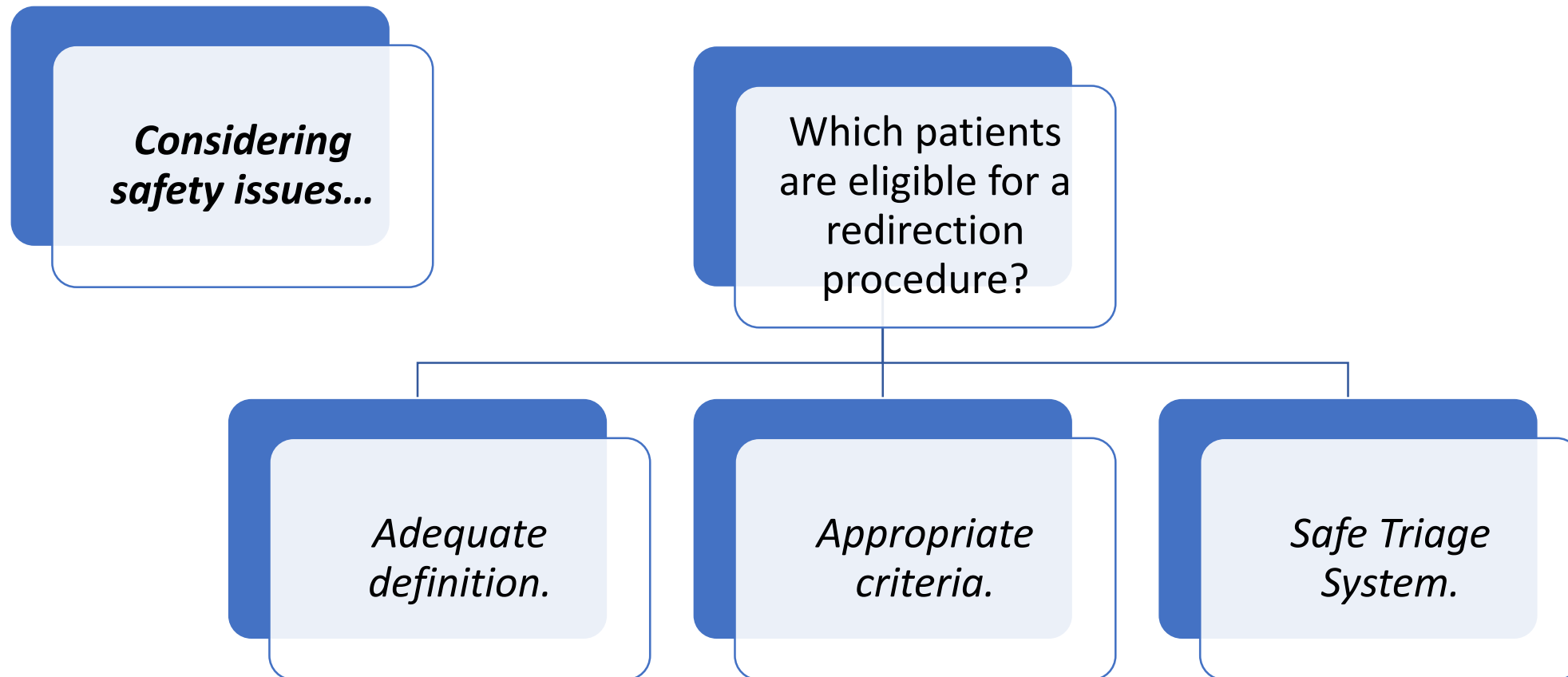
- Integrated.
- Adjacent.
- Non-adjacent.

Time of the redirection procedures:

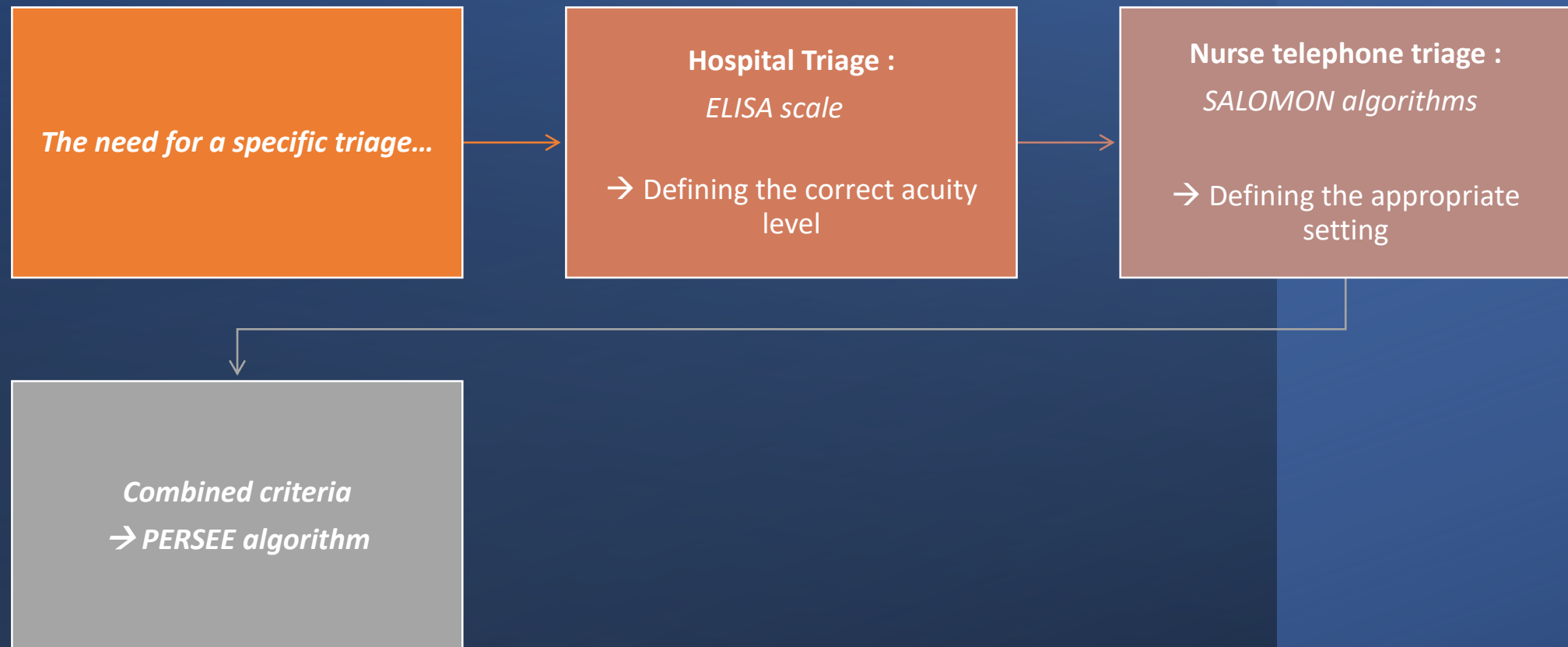
- Out-of-hours.
- Working hours.
- Both.

→ But what about the triage process (and the patient safety)?

Redirection Procedures and Patient Safety



Concept of the PERSEE Triage



ELISA TRIAGE

Defining the severity/acuity

- ***Emergency Department Triage Scale****
- ***Five levels of severity :***
 - U1
 - U2
 - U3
 - U4
 - U5
- ***4 areas of care:***
 - A = Ambulatory patients (outpatients)
 - B = Monitored patients
 - C = Patients who need to sit
 - D = Ressuscitation room
- ***Correlated to the time to first medical contact :***
 - ELISA 1: Immediate
 - ELISA 2: <15min
 - ELISA 3: <60min
 - ELISA 4: < 120min
 - ELISA 5: More than 120min

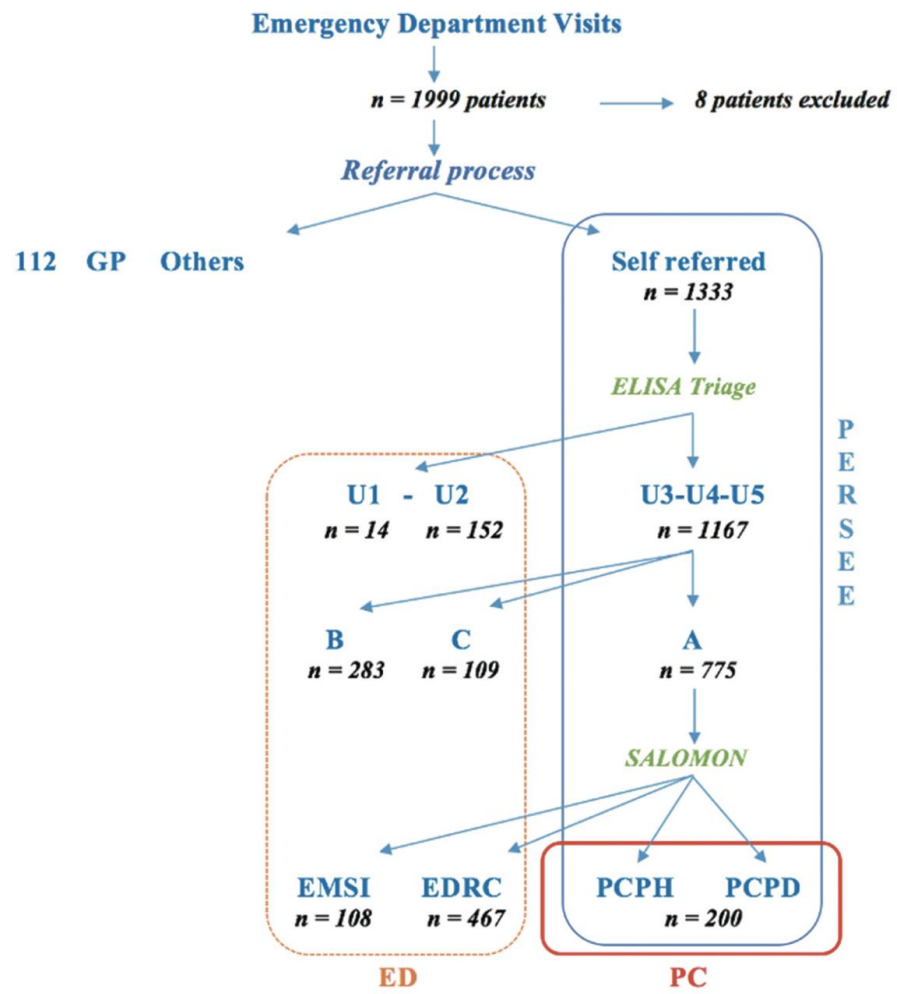
SALOMON ALGORITHMS

Defining the appropriate setting

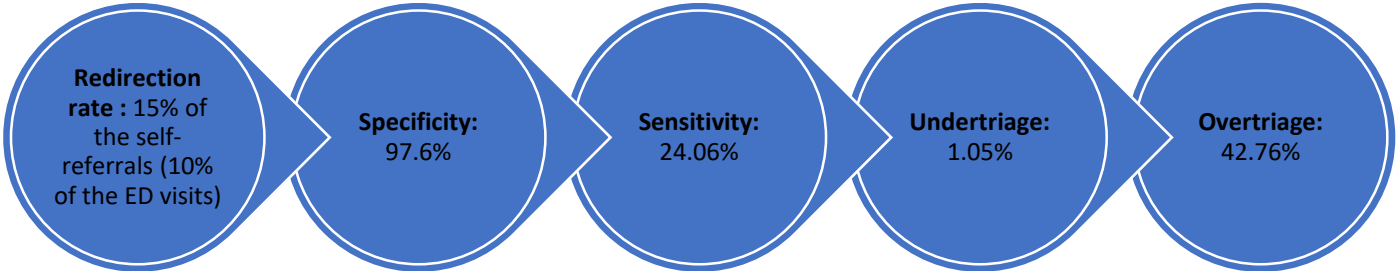
- ***Nurse telephone triage algorithms*** (2011-2019)
 - ***Validated triage algorithms*** (5-year experience study)*
 - ***54 flowcharts*** (chest pain, dyspnea, headaches, trauma, bleeding, etc)
 - ***4 levels of care :***
 - **Emergency Medical Services**
 - **Non-Urgent Emergency Department Consultation**
 - **Primary Care Physician Home Visit**
 - **Primary Care Physician Delayed visit**
- Emergency setting**
- Primary Care setting**

*Brasseur E, Gilbert A, et al. Reliability and validity of an original nurse telephone triage tool for out-of-hours primary care calls: the SALOMON algorithms. Acta Clinica Belgica. 2021.

Simulated Study Results*



The PERSEE algorithm to redirect patients:
 Low acuity patients: Ambulatory + U3-U4-U5
 Primary care setting: PCPH and PCPD



*Gilbert A et al. Advanced triage to redirect non-urgent emergency departments visits to alternative care centers: the PERSEE algorithm. Acta Clinica Belgica. 2021 April 15; 1-8.

Nurse Triage Efficiency

Extension of the triage criteria and creation of a single triage scale

Triage nurses performed a triage of 132 patients admitted to the emergency department triage area.

Same criteria to judge the appropriateness of the redirection process.

Sensitivity: 81.1%

Specificity: 90.5%

Undertriage: 6.8%

Overtriage: 7.5%

Perspectives

Preliminary Real-life Study Results

Objectives:

1. Evaluation of triage algorithms to redirect patients to an integrated alternative care center : redirection rate, errors
2. Evaluation of the performance of the integrated alternative care center : patients' satisfaction

Methods:

- 2 weeks in January 2022, 8AM to 6PM, self-referred patients (<18year-old and COVID-19 suspected excluded)
- Creation of an integrated orientation area (IOA) managed by primary care physicians
- Redirection to the IOA

Results :

- 62 patients redirected to the IOA
- *Redirection rate:* 5% to 15% of the daily admissions (limitation: the study was conducted during the Omicron wave)
- *ED Readmissions:* 4.8% (3/62)
- *Mortality :* 0% (0), delayed care 3.2% (2)
- *Patient's satisfaction interviews (46) :* Very good 59% (27); Good 35% (16); Moderate 4% (2); Bad 0% (0); Very Bad 2% (1)

Perspectives

Right Time, Right Place, Right Care

Patient Safety

Developing safe and valid criteria through the integration of 2 validated triage scales.

Redirection procedures

To focus on the critically ill in the « classical » emergency department.

More integrated and patient-centered care

for the less acute patients.

Patients Education

(regarding their disease, the level of care required).

« Snowball » effect

Dispatch the unscheduled care demand to the most appropriate location.

Thank you for your attention