

# WOUND CLOSURE BY NURSE PRACTITIONERS IN EMERGENCY AMBULANCE CARE IN THE NETHERLANDS.

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## Background

A proportion of patients who call 112 for emergency ambulance care have traumatic wounds. Normal EMS-care is to apply a wound dressing and transport these patients to an emergency department (ED). This may lead to overcrowding in the ED and occupied ambulances.

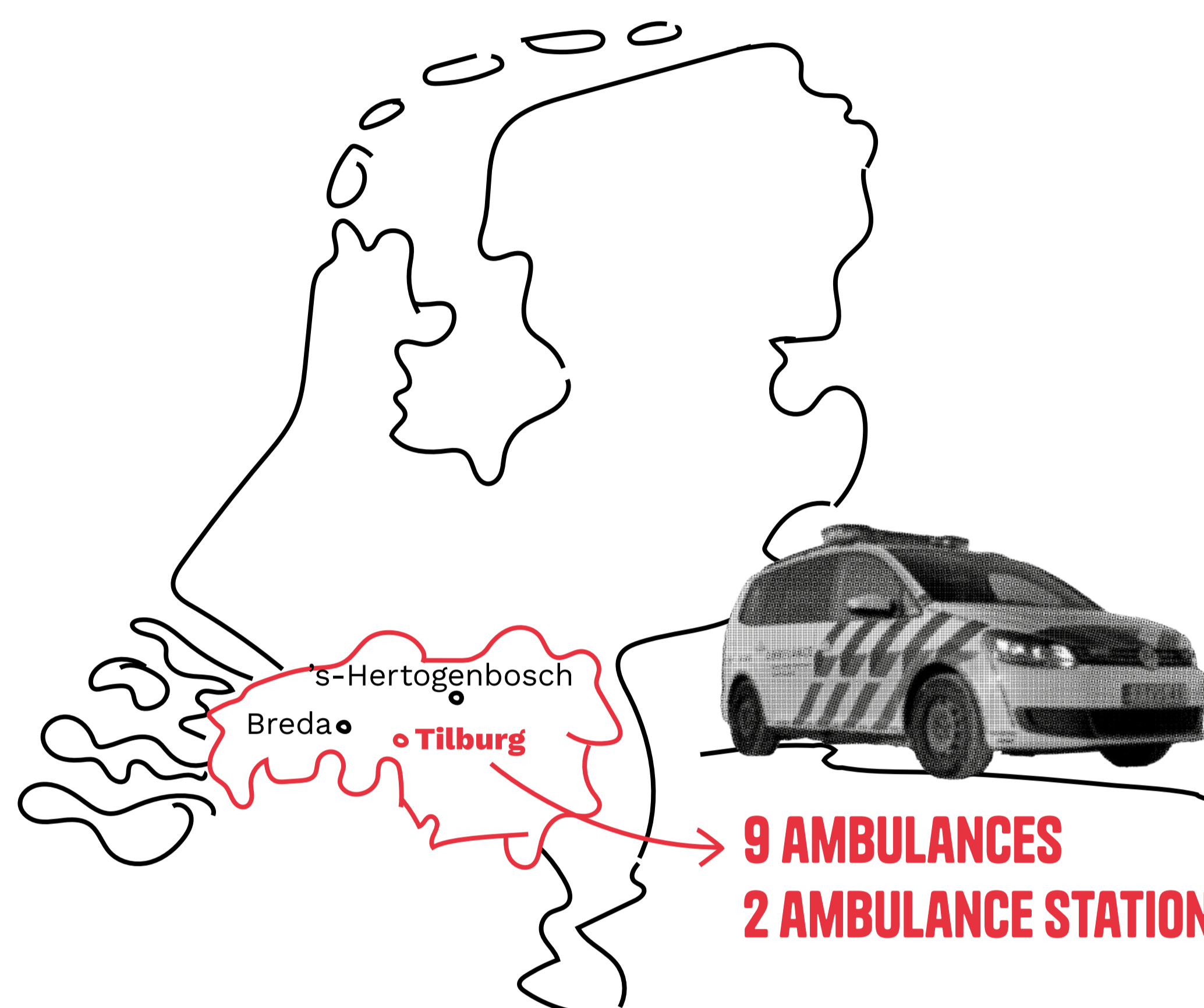
## Aim

This study focused on three outcomes:

- Patient and ambulance-run characteristics
- Applied wound closure method
- Safety of NP consultation is assessed by terms of re-contact and guideline adherence.

## Method

A retrospective observational design is used. All solo nurse practitioner ambulance runs from 09-2019 till 09-2020 in one EMS region (RAV Brabant MWN) were included.



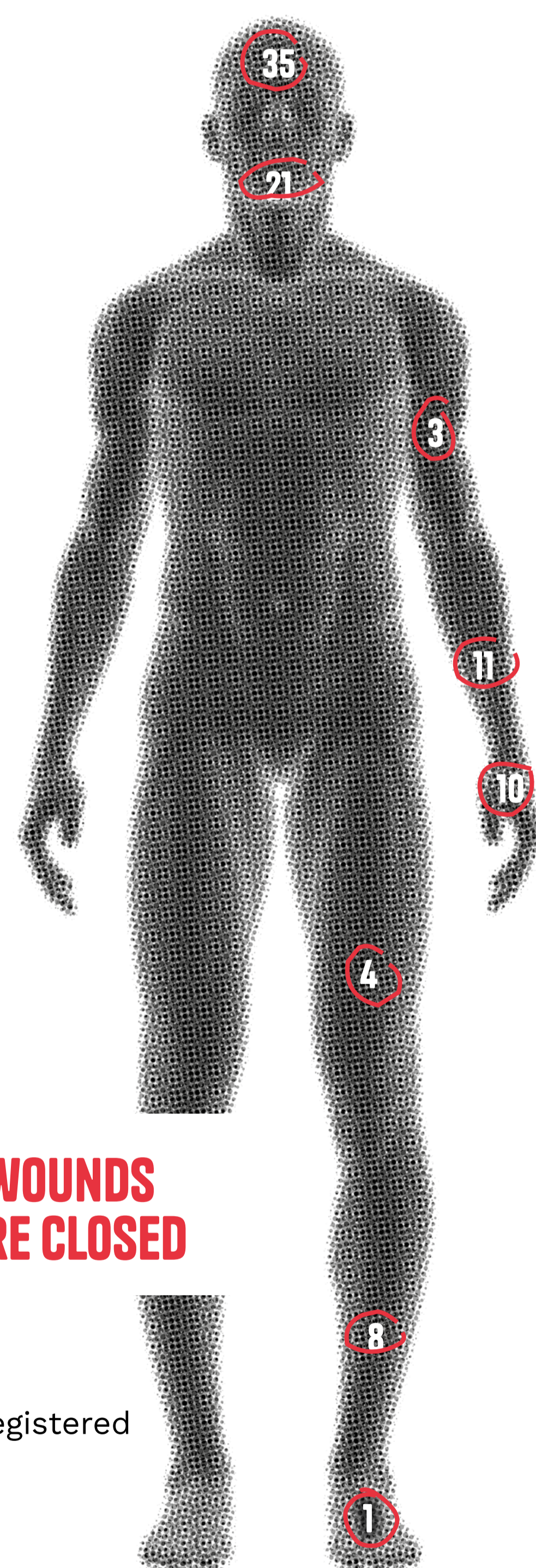
9 AMBULANCES  
2 AMBULANCE STATIONS

## Setting

- The EMS RAV Brabant Midden-West-Noord is located in the southern part of the Netherlands. Within this region 1.8 million people reside.
- This EMS covers three main urban areas: Tilburg, Breda and 's-Hertogenbosch.
- RAV Brabant Midden-West-Noord has 85 ambulances in 26 stations.
- In 2019 there were 92,334 ambulance runs.

## Tilburg

- Ten nurse practitioners are deployed in the Tilburg area from 7:00 AM till 9:00 PM.
- They drive in a fully equipped solo ambulance vehicle without a patient transport option.
- 219,789 inhabitants live in the Tilburg region, served by 9 ambulances from 2 ambulance stations.



98 WOUNDS WERE CLOSED

5 Not registered

Number of wounds per body part (n=).

## PATIENT AND AMBULANCE-RUN CHARACTERISTICS

- 98 wounds were closed by a nurse practitioner.
- More often men than women (61.2% versus 37.8%).
- More than half of the patients are under the age of 50 (39.8% in 18-50 age group).
- 62.2% of the consultations via national emergency number.
- 12.2% of the requests via another ambulance unit on site.
- The vast majority had an semi-urgency.

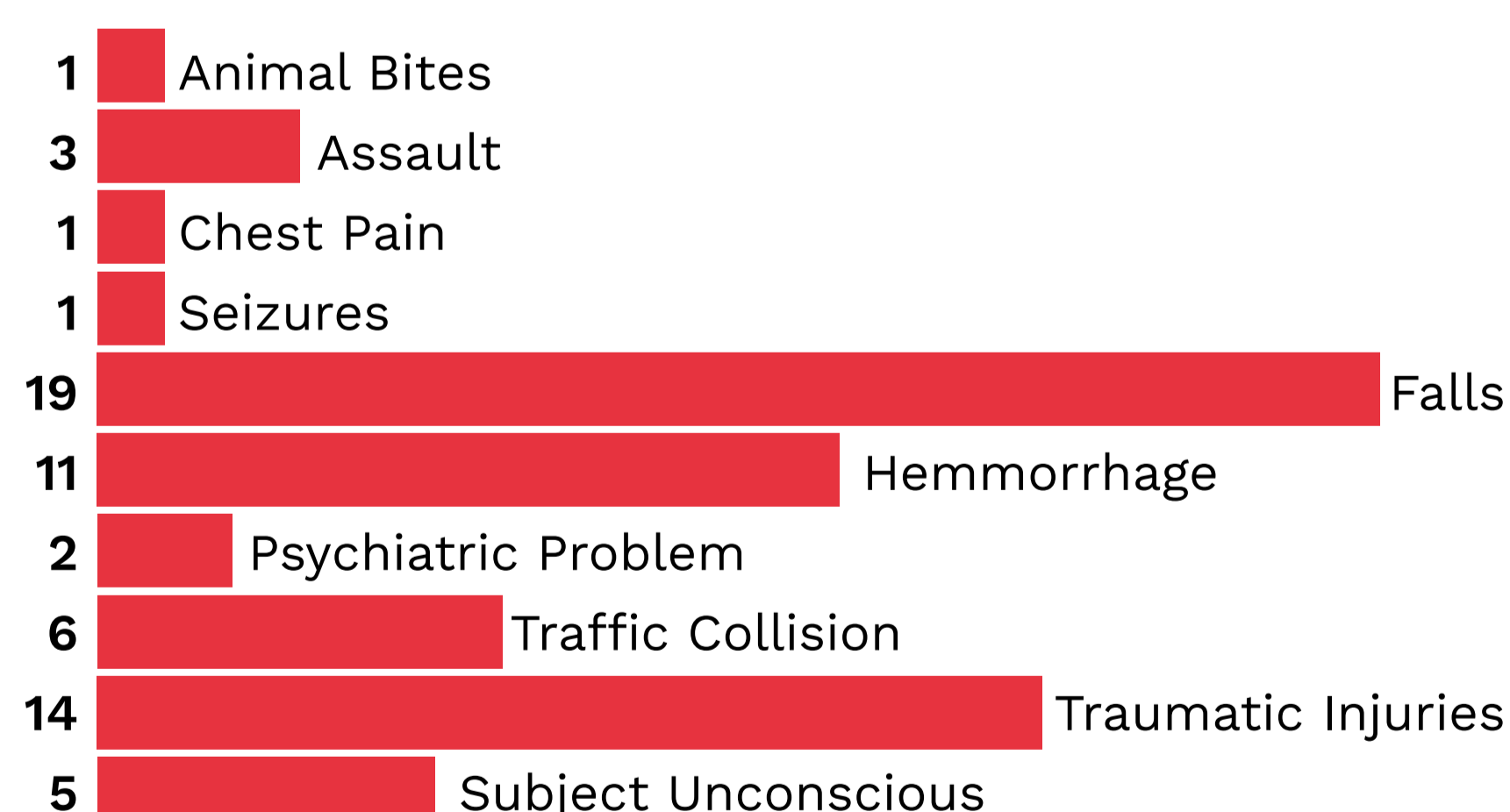
## 49 LACERATIONS

## 40 CUTS

## 2 STABWOUNDS

## 2 BITES

## 5 UNKNOWN, CAUSED BY



The mean consultation time was 40.4 (±20.2) minutes.

## RE-CONTACT AND GUIDELINE ADHERENCE

Of the 98 patients where a wound was closed, no re-contacts with an ambulance occurred within 72 hours.

A photo was taken of 69 (70.4%) wounds, in which a GP assessed whether the NP made the right choice to close the wound pre-hospital, or whether the chosen method to close the wound is the most appropriate. And whether the material chosen is the most suitable.

It appears that in 95.7% of the cases the choice to close the wound pre-hospital was judged to be correct, with 88.4% being chosen for the correct method and 85.5% for the correct material.



## APPLIED WOUND CLOSURE METHOD

Surgical tape	1
Tissue glue	23
Tissue glue & surgical tape	4
Sutures	50
Sutures & surgical tape	5
Sutures & tissue glue	10

## FOLLOW-UP CARE AFTER PREHOSPITAL WOUND CLOSURE

Referral to emergency care	1
Follow-up appointment with GP	45
Self-care advice	45
Medication prescribed	2

## RESULTS

RESULTS INDICATED THAT 83 PATIENTS WHO HAD A WOUND CLOSED BY A NURSE PRACTITIONER, HAD BEEN TREATED ON SITE AND WERE NOT TRANSPORTED TO AN EMERGENCY ROOM.

BASED ON THE MINIMUM AMOUNT FOR WOUND CLOSURE IN THE EMERGENCY ROOM, €26,643 HAS BEEN SAVED BY WOUND CLOSURE BY NURSE PRACTITIONERS IN EMERGENCY AMBULANCE CARE IN THE NETHERLANDS.

## CONCLUSION:

- WOUND CLOSURE BY A NP WITHIN EMS-CARE CAN BE DONE SAFELY AND REDUCE CONVEYANCE
- THIS CONTRIBUTES TO MEANINGFUL CARE FOR BOTH PATIENT AND EMERGENCY CARE SYSTEM

