

TAPE-a web based tool (software) for injury monitoring in elderly care

**Ilona Nurmi-Lüthje, PhD
adjunct professor (public health)**

**Centre for Injury and Violence prevention (Start)
Kouvola, Finland
www.tapaturmahanke.fi**

Safety 2010, London

Kouvola (90 000 inhabitants) is situated in South-East of Finland

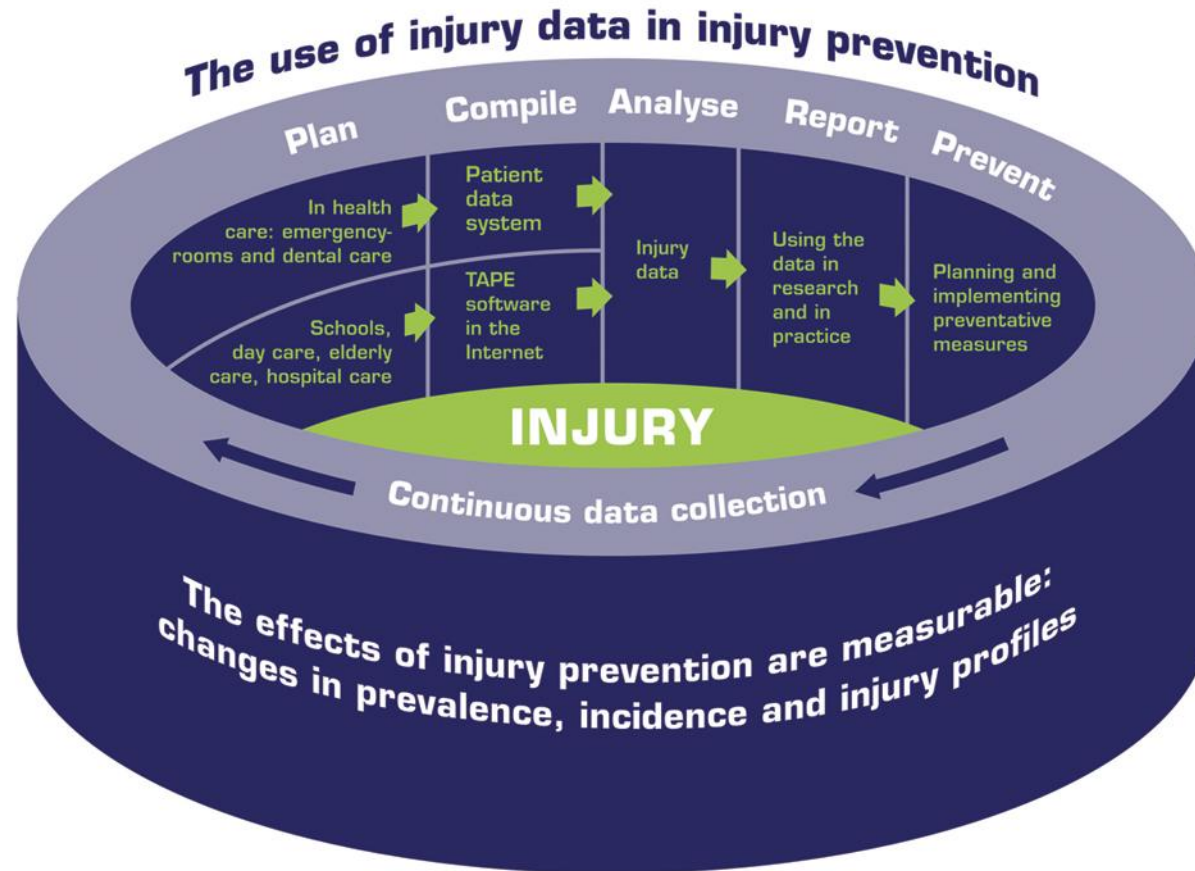


S | t | a | r | t

Centre for Injury and Violence Prevention

s | t | a | r | t

Centre for Injury and Violence Prevention



Poster board 62, Friday 24th September
Elizabeth Windsor & Mountbatten Lounge (5th Floor)

Idea

**Use of continuous,
prospective
injury data
for injury prevention**

TAPE –accident log

- is developed in cooperation with a software company
- accidents are recorded prospectively by the staffs of the facilities
- recording as near as possible to the scene
- all accidents are recorded whether or not they lead to an injury

Two different data bases for elderly care

- **TAPE** for hospital and nursing home care
- **TAPE** for home care, residential care and other assisted living

Variables (detailed information)

- sex, age, time of injury, type of injury, falls: direction of fall, hip protectors, place of injury, indoors/outdoors, work shift, activity at the time of injury, intrinsic factors, extrinsic factors, definition of the patient or resident (long-term, short term etc..), did the person get an injury, if yes: location and type of injury, further examinations, place of care, was the patient alone or with someone, how did the person get help, how long did the person wait for help, was the injury caused by another person

Use of TAPE data

- **TAPE** -is in real time: all the recorded injury data can be viewed immediately as graphs (numbers or percentages)
- **TAPE** - viewing period can be chosen
- **TAPE** - data are used in everyday practice as well as in research



TAPE[©] Accident log

Username:

Password:

[Login](#) »

Powered by Oy Amli Ab

SSL (Secure Sockets Layer) -protection

TAPE[©] Accident log[Frontpage](#)[Accidents](#)[Reports](#)[Viewing rights](#)[Log out](#)**Add new accident:**Form: [home and residential care »](#)**Printable form:**Printable form (Word-file): [Download »](#)**Open accidents:** (5 newest)

| Nro | Date | Weekday | | |
|-----------------------|-----------|---------|----------------------|------------------------|
| 11857 | 7.6.2010 | Mon | Edit | Delete |
| 11105 | 24.3.2010 | Wed | Edit | Delete |
| 11081 | 23.3.2010 | Tue | Edit | Delete |
| 10782 | 17.2.2010 | Wed | Edit | Delete |
| 10728 | 11.2.2010 | Thu | Edit | Delete |

Closed accidents: (5 newest)

| Nro | Date | Weekday |
|----------------------|-----------|---------|
| 5518 | 8.4.2008 | Tue |
| 1303 | 27.9.2006 | Wed |

1/10

Female ▼

89 y.

The patient was getting up from bed in the middle of the night to go to toilet. The room was dark and no assistance was available. Only one nurse was in duty and she was in another room helping another patient. The patient did not take the cane along. She had taken sleeping pill four hours before the fall etc...

| September 2010 | | | | | | |
|----------------|----|----|----|----|----|----|
| Mo | Tu | We | Th | Fr | Sa | Su |
| 30 | 31 | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |

02:00

[Save and proceed »](#)

i

New Accident

2/10

Work shift

- ☐ morning (07:00-14:59)
- ☐ evening (15:00-21:59)
- ☒ night (22:00-06:59)

Injury type

- ☒ fall on the same level
- ☐ collapsing or slumping
- ☐ tripping
- ☐ colliding
- ☐ slipping
- ☐ someone else pushed or made fall
- ☐ falling from bed
- ☐ falling from a chair/wheelchair
- ☐ falling from a toilet seat
- ☐ stumbling when getting up
- ☐ found on the floor/ground
- ☐ lifitng or reaching accident
- ☐ burn accident
- ☐ frostbite accident
- ☐ getting pressed, squeezed
- ☐ other accident
- ☐ not known

Internal cause of injury. Max 2 options

- ☐ attack
- ☐ vertigo
- ☒ losing balance, losing strength
- ☐ forgetfulness
- ☐ other confusion
- ☐ carelessness, hurry
- ☒ medication
- ☐ worsened eyesight
- ☐ worsened hearing
- ☐ intoxicants
- ☐ other internal
- ☐ no internal cause

External cause of injury (connected to environment). Max 2 options

- ☒ bad lighting
- ☐ slippery or uneven base ground or floor
- ☐ carpet
- ☐ improper footwear
- ☐ not a fitting aid device / improper use of aid device
- ☐ broken aid device
- ☒ aid device was not with / was forgotten
- ☐ broken piece of furniture or fitting
- ☐ barriers (thresholds, furniture, electric wires or like)
- ☐ tightness of space
- ☐ pet
- ☐ smoking
- ☐ stove
- ☐ sauna stove
- ☐ (other) electronic device
- ☐ other external reason
- ☐ no external cause

TAPE[©] Accident log

Frontpage

Accidents

Reports

Viewing rights

Log out



New Accident

7/10

Resident / person was in the accident situation

- ☒ alone
- ☐ a relative was present
- ☐ staff were present
- ☐ other residents/staff were present
- ☐ both staff and others were present

Resident / person is in a unit, in home health care or home care

- ☐ long-term
- ☐ short-term or temporarily
- ☐ because of acute illness
- ☐ because of an act
- ☒ interval care
- ☐ because of the caretaker's vacation or acute illness
- ☐ other reason

« Previous

Save and proceed »

Location of the injury

- ☐ facial area
- ☐ neck, throat
- ☒ head (except for face, neck and throat)
- ☐ chest
- ☐ rib
- ☐ shoulder, upper arm
- ☐ elbow, forearm
- ☐ wrist
- ☐ fingers
- ☐ palm
- ☐ stomach
- ☐ back/backbone
- ☐ pelvis
- ☐ hip
- ☐ behind
- ☐ thigh area
- ☐ knee
- ☐ leg
- ☐ ankle
- ☐ foot, toes
- ☐ injury related to many body parts
- ☐ other

Determining the injury requires further examinations

- ☒ yes
- ☐ no

Type of injury

- ☒ bruise, bump
- ☐ superficial cut, skin cut
- ☐ bruise, open wound
- ☐ tooth injury
- ☐ eye injury
- ☐ burn injury
- ☐ electric shock
- ☐ frostbite
- ☐ concussion
- ☐ unconsciousness
- ☐ fracture
- ☐ dislocation
- ☐ strain
- ☐ pain
- ☐ other

Place of care

- ☐ the injury did not need care
- ☐ by home (health) care
- ☐ the injury required a doctor's visit
- ☒ the injury required hospital care
- ☐ other

Saved injuries

| Injury information | |
|-----------------------------------|------------------------|
| rib | Delete |
| fracture | |
| yes | |
| the injury required hospital care | |

i

New Accident

10/10

How did the resident / person get help?

☒ did not need help

☐ called the ambulance themselves

☐ through the help of a relative living in the same household or through another relative

☐ with the help of a neighbor or a friend

☐ through a safety bracelet

☐ along with a normal service visit

☐ through a normal home care visit

☐ with the aid of a nurse

☐ another way

Resident / person waited for help

☒ under 1/2 hours

☐ 1/2-1 hours

☐ 1-6 hours

☐ 6-12 hours

☐ 12-24 hours

☐ over 24 hours

☐ no information

Was the accident caused by another resident / person?

☒ no

☐ yes, caused intentionally

☐ yes, caused unintentionally

☐ not known

« Previous

Save and proceed »

| | | |
|--|---|---|
| Accident | | |
| Basic information: | | |
| Accident ID | 12810 | Edit |
| Time of accident | 15.9.2010 wed 00:00 | |
| Person | 89 y. female | |
| Description | | |
| | | |
| Work shift | night (22:00-06:59) | Edit |
| Injury type | fall on the same level | |
| | | |
| Manner of fall | forward or forward sideways | Edit |
| | | |
| The accident happened | indoors | |
| Scene of the accident | bedroom | Edit |
| Situation when the accident happened | going to the toilet / coming from the toilet | |
| | | |
| Resident / person was wearing a hip protector when the accident happened | yes | Edit |
| | | |
| Internal cause of injury. Max 2 options | losing balance, losing strength medication | Edit |
| External cause of injury (connected to environment). Max 2 options | bad lighting aid device was not with / was forgotten | |
| | | |
| Resident / person was in the accident situation | alone | Edit |
| | | |
| Did the accident cause an injury or pain? | noyes | Edit |
| Injury: | | |
| Location of the injury | rib | |
| Type of injury | fracture | Edit Delete injury |
| Determining the injury requires further examinations | yes | |
| Place of care | the injury required hospital care | |
| Injury: | | |
| Location of the injury | head (except for face, neck and throat) | |
| Type of injury | bruise, bump | Edit Delete injury |
| Determining the injury requires further examinations | yes | |
| Place of care | the iniurv required hospital care | |

TAPE[©] Accident log

Frontpage

Accidents

Reports

Viewing rights

Log out

Choose units to reporting

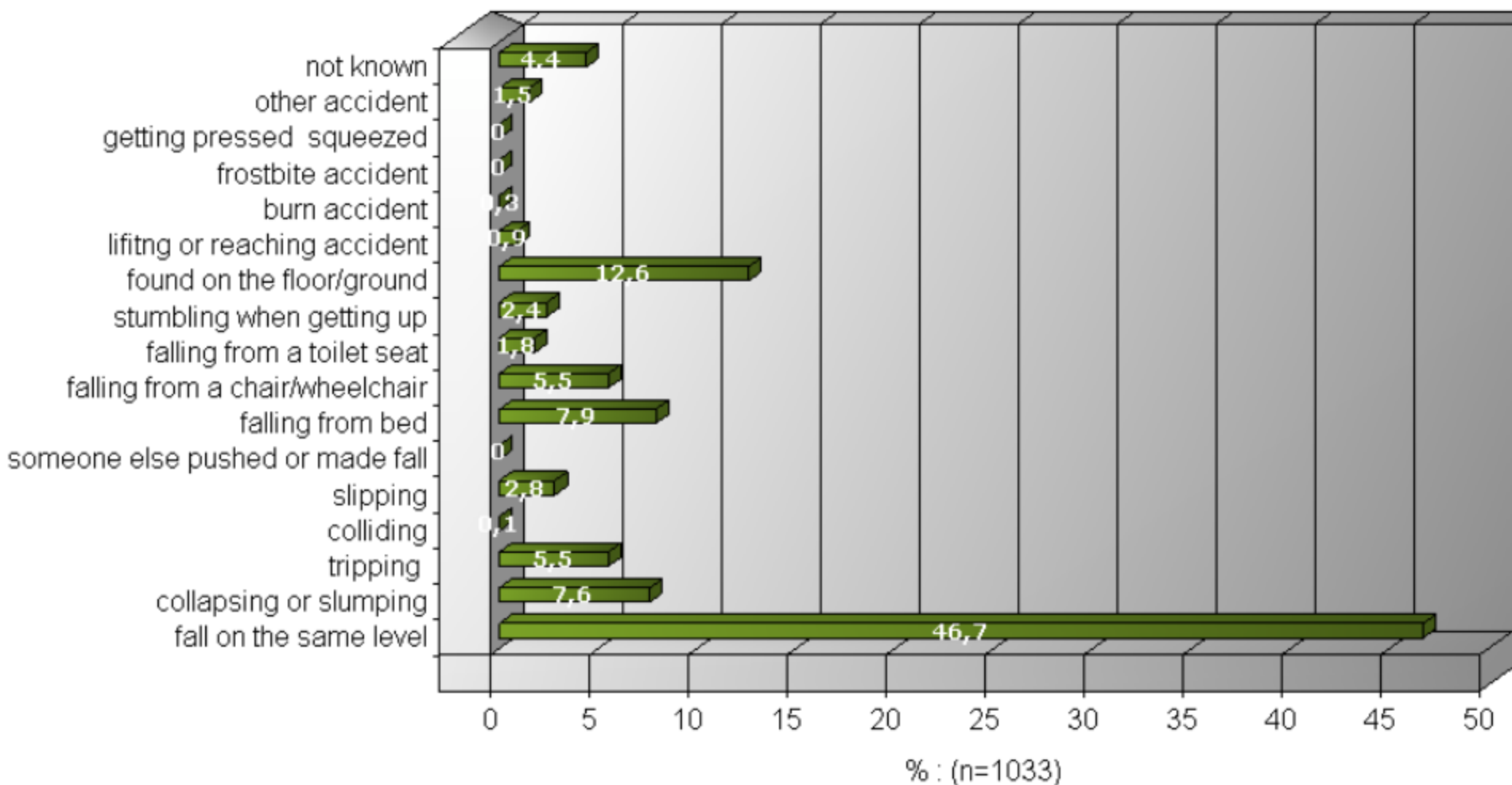
- | | | |
|---|--|--|
| <input type="checkbox"/> Kotihoito | <input checked="" type="checkbox"/> KLA Viitakumpu kotihoito | <input checked="" type="checkbox"/> Kotihoito Jokela |
| <input checked="" type="checkbox"/> Ksh A-alue | <input checked="" type="checkbox"/> Ksh Kuusankoski | <input checked="" type="checkbox"/> Kotihoito Vuohijärvi |
| <input checked="" type="checkbox"/> Ksh B-alue | <input checked="" type="checkbox"/> Ksh Anjalankoski | <input checked="" type="checkbox"/> Kotihoito Anjala |
| <input checked="" type="checkbox"/> Ksh C-alue | <input checked="" type="checkbox"/> Ksh Jaala | <input checked="" type="checkbox"/> Kotihoito Myllykoski-Sippola |
| <input checked="" type="checkbox"/> KLA Kaunisnurmi 1 kotihoito | <input checked="" type="checkbox"/> Kotihoito Jaala | <input checked="" type="checkbox"/> Kotihoito Viiala |
| <input checked="" type="checkbox"/> KLA Kaunisnurmi 2 kotihoito | <input checked="" type="checkbox"/> Ksh Kouvola | <input checked="" type="checkbox"/> Kotihoito Inkeroinen vanha |
| <input checked="" type="checkbox"/> KLA Keskusta 1 kotihoito | <input checked="" type="checkbox"/> Ksh Valkeala | <input checked="" type="checkbox"/> Kotihoito Yöpartio Ak |
| <input checked="" type="checkbox"/> KLA Keskusta 2 kotihoito | <input checked="" type="checkbox"/> Kotihoito Voikkaa | <input checked="" type="checkbox"/> Yöpartio Kla |
| <input checked="" type="checkbox"/> KLA Keskusta 3 kotihoito | <input checked="" type="checkbox"/> Kotihoito Kuusaa 1 ja 2 | <input checked="" type="checkbox"/> Kotihoito Elimäki |
| <input checked="" type="checkbox"/> KLA Rekola kotihoito | <input checked="" type="checkbox"/> Kotihoito Kuusaa 3 ja 4 | <input checked="" type="checkbox"/> Kotihoito Inkeroinen |
| <input checked="" type="checkbox"/> KLA Eskolanmäki kotihoito | <input checked="" type="checkbox"/> Kotihoito Yöpartio Ksnk | <input checked="" type="checkbox"/> Kotihoito Inkeröisten pk |
| <input checked="" type="checkbox"/> KLA Lehtomäki1 kotihoito | <input checked="" type="checkbox"/> Kotihoito Mäyränkorpi | <input checked="" type="checkbox"/> Kotihoito Korja |
| <input checked="" type="checkbox"/> KLA Lehtomäki 2 kotihoito | <input checked="" type="checkbox"/> Kotihoito Valkeala | <input checked="" type="checkbox"/> Tukipalvelut |
| <input checked="" type="checkbox"/> KLA Käpylä kotihoito | | |

[Choose all](#)

| Target of report | Begin | | End | | Gender | Graph headers | Percentage |
|--------------------|-------|------|-----|------|--------|--------------------------|-------------------------------------|
| Accidents by month | 1 | 2006 | 9 | 2010 | Both | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Create report

Injury type 1/2006 - 9/2010 Both



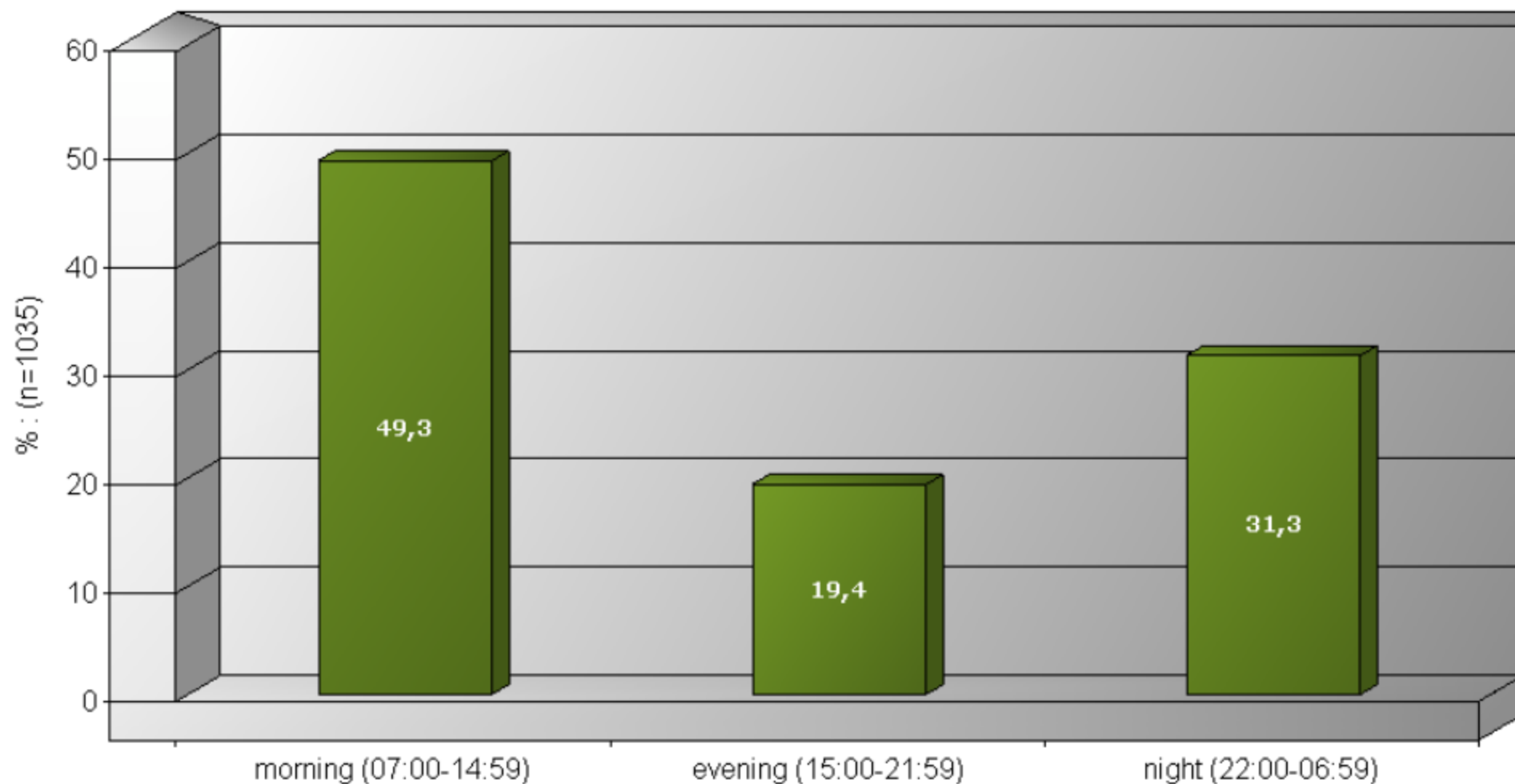
Accidents in selected timespan

All: 1033

Men: 251

Women: 782

Work shift 1/2006 - 9/2010 Both



Accidents in selected timespan

All: 1033

Men: 251

Women: 782

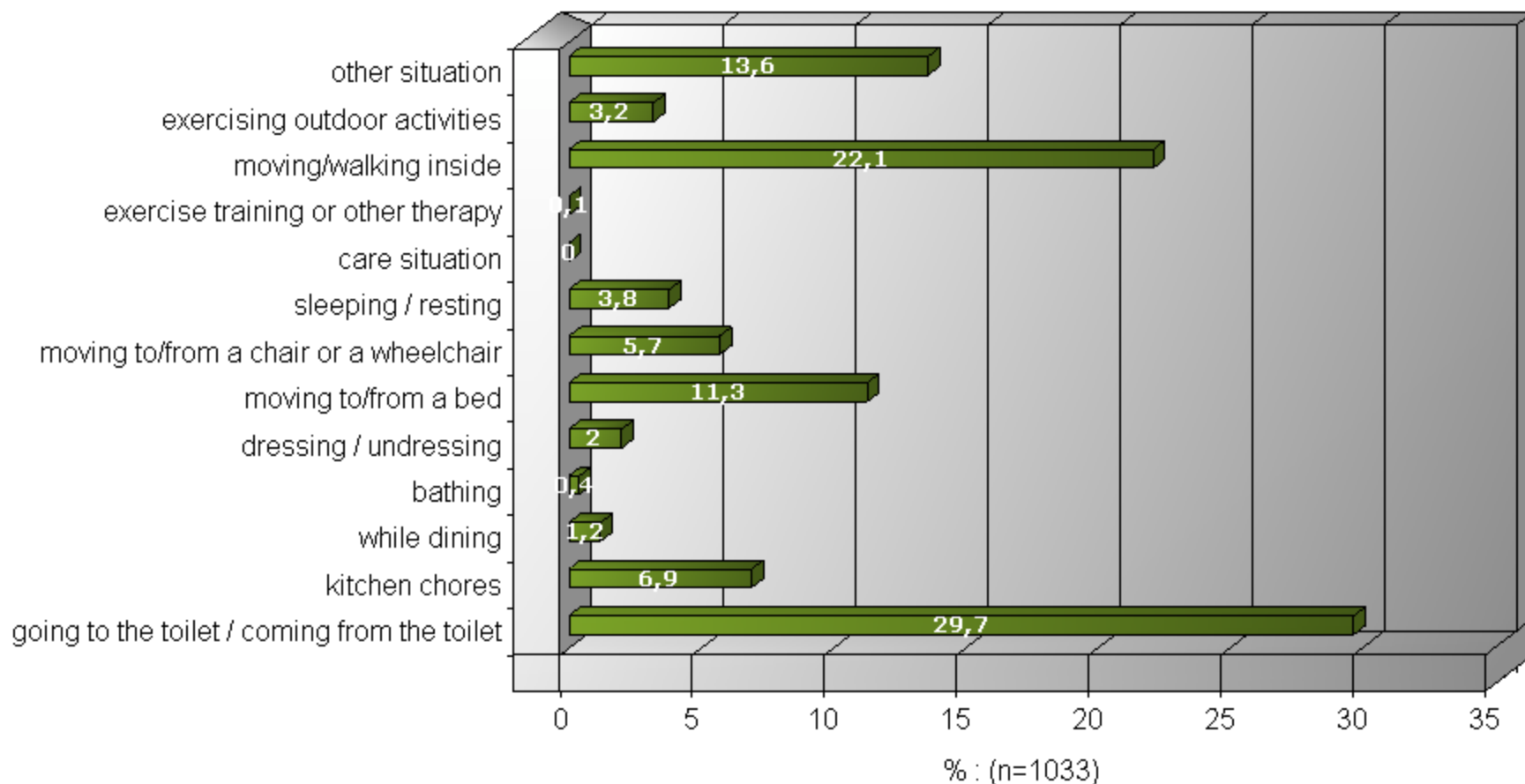
☒
 KLA Käpylä kotihoito

[Choose all](#)

| Target of report | Begin | End | Gender | Graph headers | Percentage | | |
|---|--|---|--|---|---|---------------------------------------|--|
| <div> Situation when the accident happened <div></div> </div> | <div> 1 <div></div> </div> | <div> 2006 <div></div> </div> | <div> 9 <div></div> </div> | <div> 2010 <div></div> </div> | <div> Both <div></div> </div> | <div> <input type="checkbox"/> </div> | <div> <input checked="" type="checkbox"/> </div> |

Create report

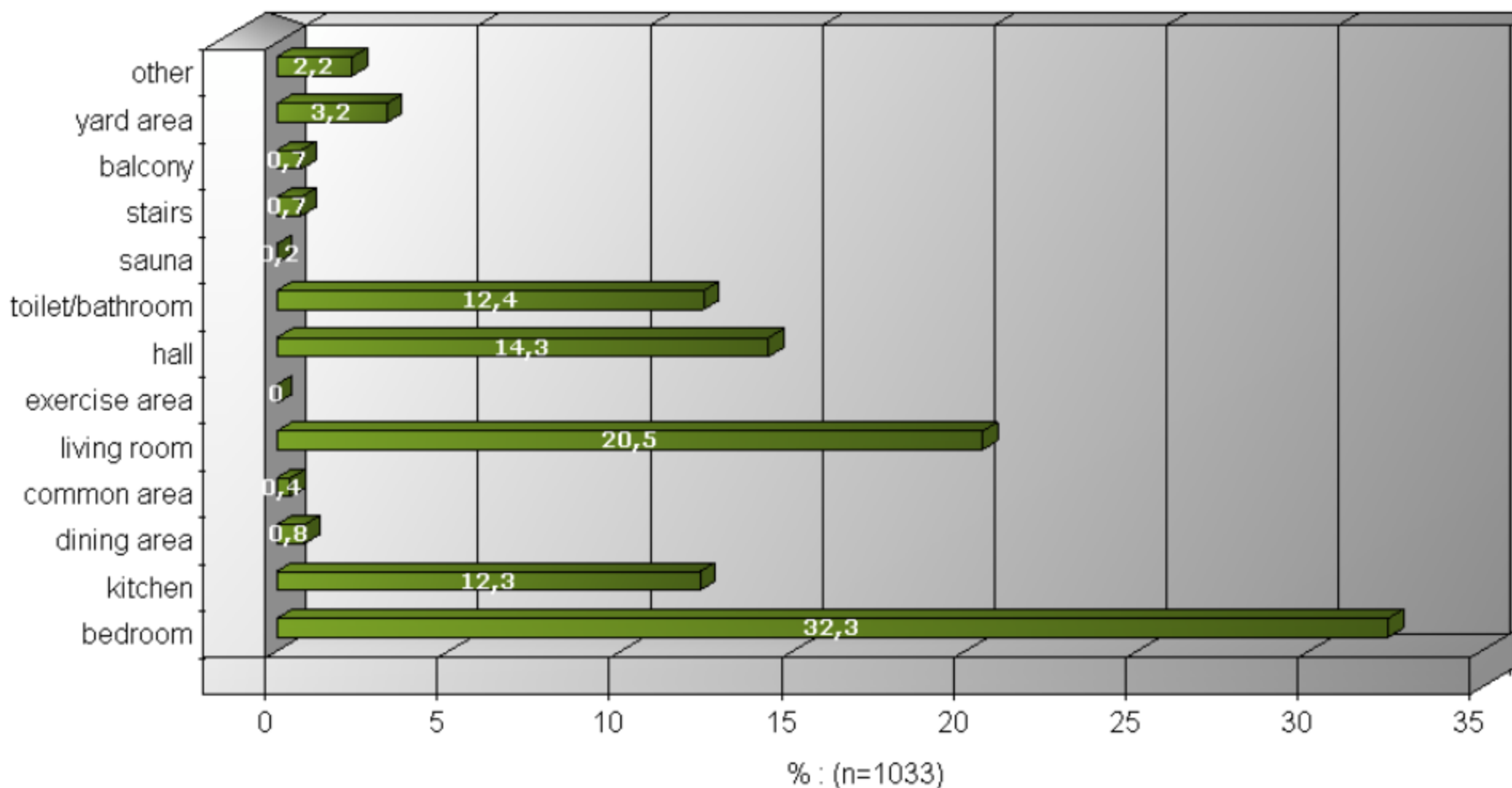
Situation when the accident happened 1/2006 - 9/2010 Both



Accidents in selected timespan

All: 1033

Men: 251

Scene of the accident 1/2006 - 9/2010 Both

Accidents in selected timespan

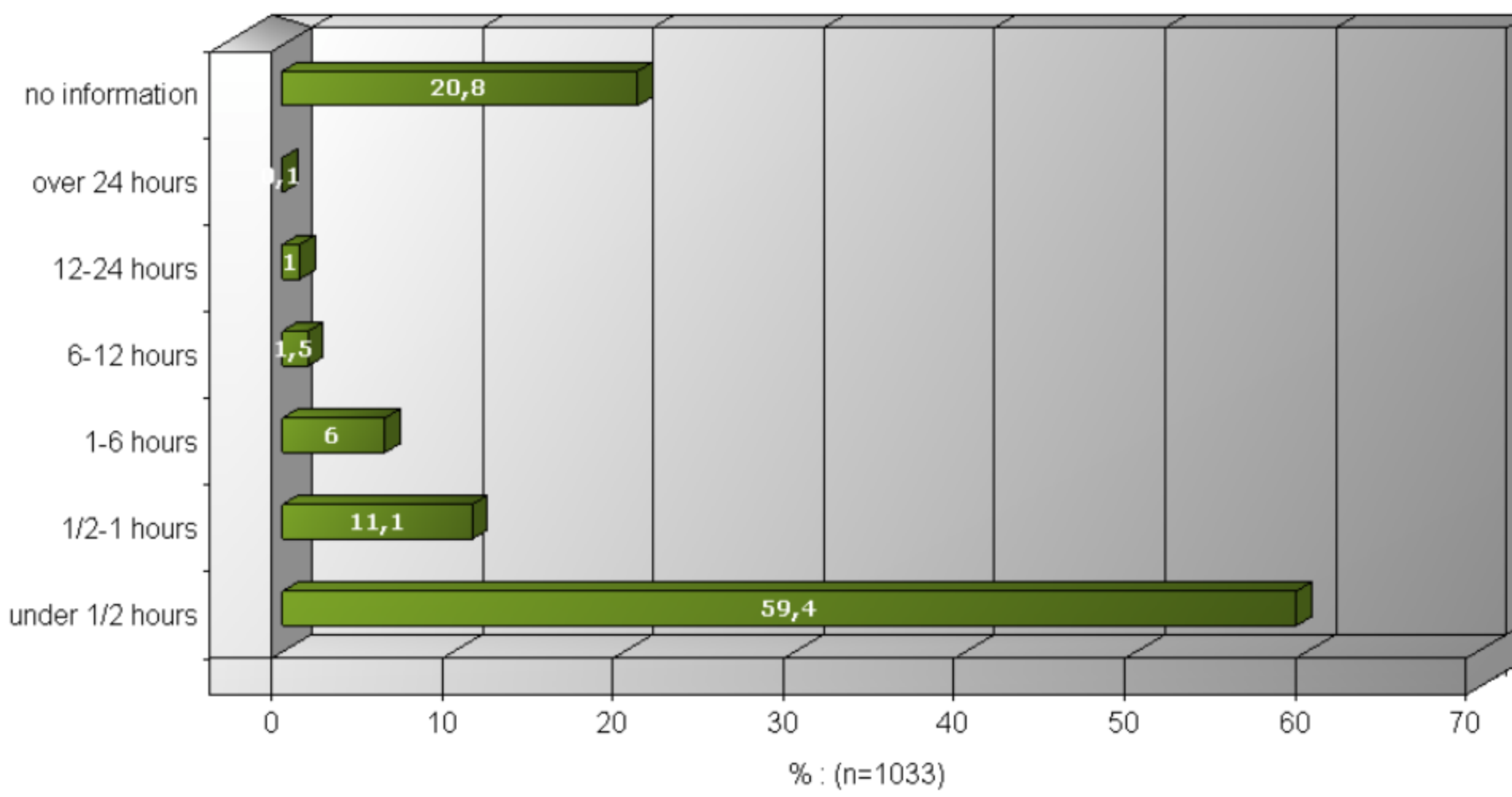
All: 1033

Men: 251

Women: 782

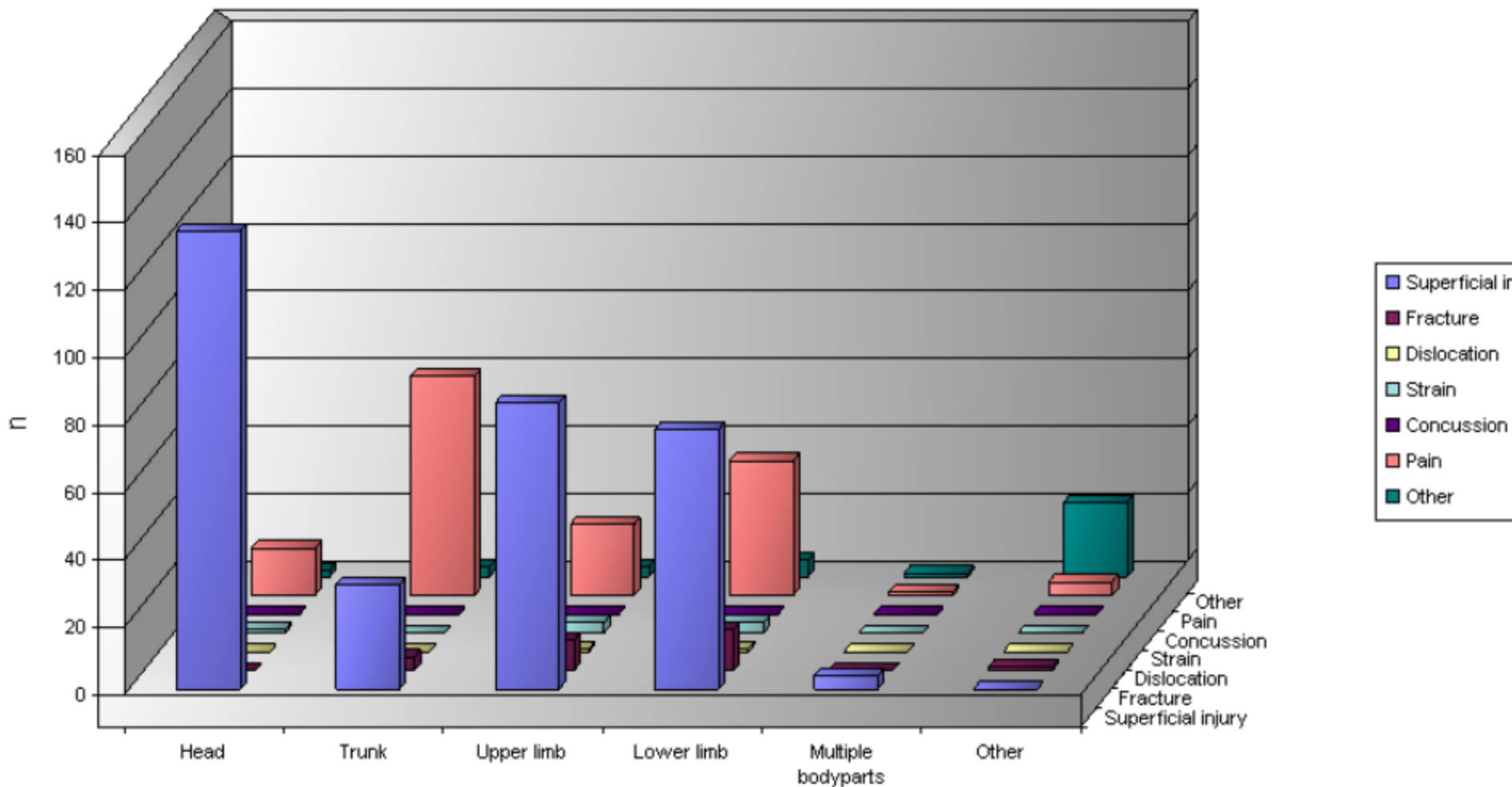
Create report

Resident / person waited for help 1/2006 - 9/2010 Both



Accidents in selected timespan
All: 1033
Men: 251
Women: 782

Injuries by type 1/2006 - 9/2010 Both



Accidents in selected timespan

All: 1033

Men: 251

Women: 782

Conclusion

- **TAPE-** is used for injury prevention and for the evaluation of the effectiveness of prevention actions
- **TAPE-** is a tool for safety management at several levels-
viewing rights have been created for those who are responsible for elderly care in the municipality

TAPE[©] Accident log

Frontpage

Accidents

Reports

Viewing rights

Log out

Add new accident:

Form: [home and residential care »](#)

Printable form:

Printable form (Word-file): [Download »](#)

Open accidents: (5 newest)

| Nro | Date | Weekday | | |
|-----------------------|-----------|---------|----------------------|------------------------|
| 11857 | 7.6.2010 | Mon | Edit | Delete |
| 11105 | 24.3.2010 | Wed | Edit | Delete |
| 11081 | 23.3.2010 | Tue | Edit | Delete |
| 10782 | 17.2.2010 | Wed | Edit | Delete |
| 10728 | 11.2.2010 | Thu | Edit | Delete |

Closed accidents: (5 newest)

| Nro | Date | Weekday |
|----------------------|-----------|---------|
| 5518 | 8.4.2008 | Tue |
| 1303 | 27.9.2006 | Wed |

Two more variables are under development

- time-related variable for measuring the actions that have been performed in the facilities (e.g.increased the number of staff, reduced the medication, removed the thresholds, refurnished the room etc...)
- staff-patient ratio at the time of accident by work shift

Thank you for your attention

Funding:
Finnish Ministry of Social Affairs and
Health (75%)
Kouvola City (25%)

Contact information:
ilona.nurmi-luthje@kouvola.fi

