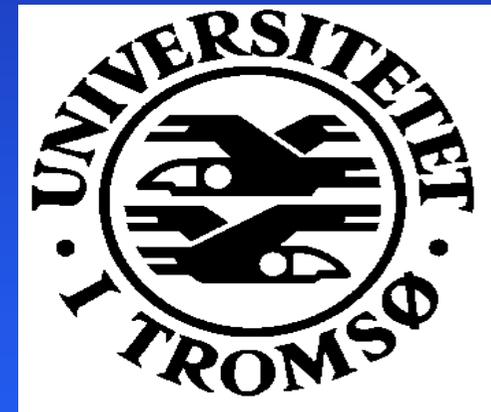


# Burns and Fire prevention

Local data essential for effective prevention and evaluation

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University of Tromsø  
Norway  
Chair ESCON



Norges Brannskole Fjelldal June 18 th 2013

# Safe Communities History

- International Safe Communities were established in 1989
- Karolinska Institute in Stockholm is a WHO Collaborating Centre, administering and certifying
- June 3rd 2013, Borås Sweden was re-designated and became no 316 Safe Community worldwide

[http://www.phs.ki.se/csp/who\\_safe\\_communities\\_network\\_en.htm](http://www.phs.ki.se/csp/who_safe_communities_network_en.htm)

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# Local perspektive

- **The Safe Community movement works in communities and represent a supplement to national top down work**
  - **Published studies from Sweden documented diminishing injury rates in Swedish communities collaborating cross-sectoral and multi-disciplinary (Schelp/Svanstrøm)**
  - **Many national stand-alone top-down campaigns have had dubious effect when impact was evaluated**
- 
-

**HARSTAD (23500)**  
**WHO Safe Community 1994**  
**1st in Norway, 11th in world**  
**Hosted World Safecom Conference in 1994**



**Welcome June 2014 to Harstad**  
**4th European Safecom!**

# Harstad Hospital one of four Norwegian Hospitals recording injuries from 1.7.85

- Trondheim, Stavanger, Drammen, Harstad
  - These four hospitals gave an epidemiological 10 % sample of Norway's population
  - The national injury register skaderegisteret was discontinued in 2003 (Too expensive!?)
  - Harstad Injury Data Base (IDB) has functioned for 28 år. The last 10 years Harstad has functioned as source for the national injury panorama
  - Harstad population is 0,5% of Norway's population
- 
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# Norway's one and only high quality injury data base Thanks to Ellen Nikolaisen



# Generally on Harstad IDB

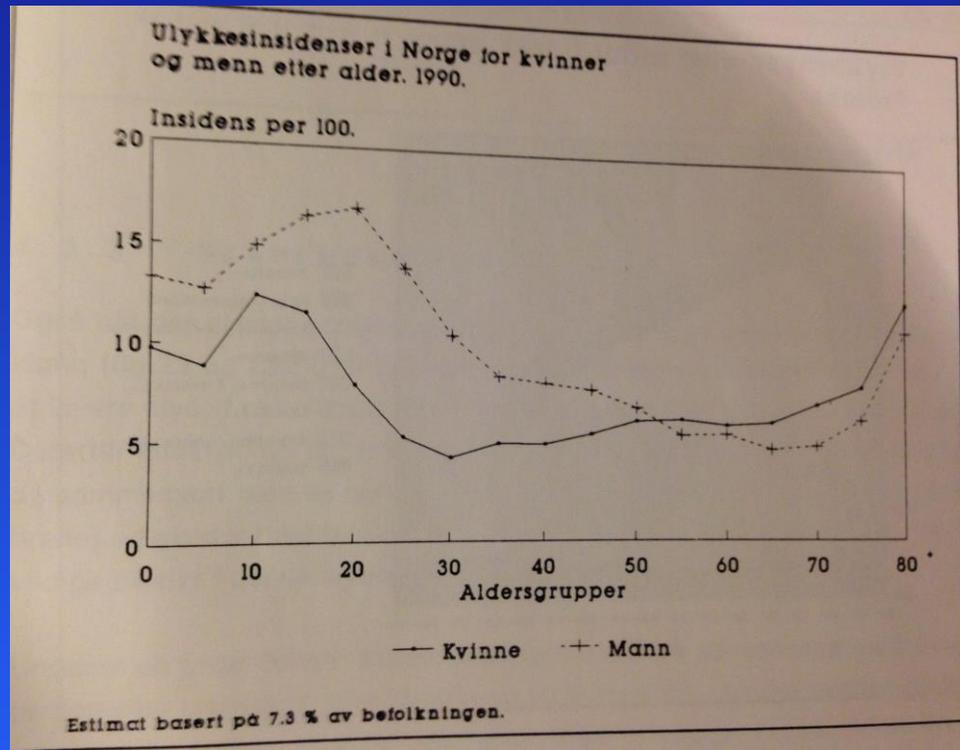
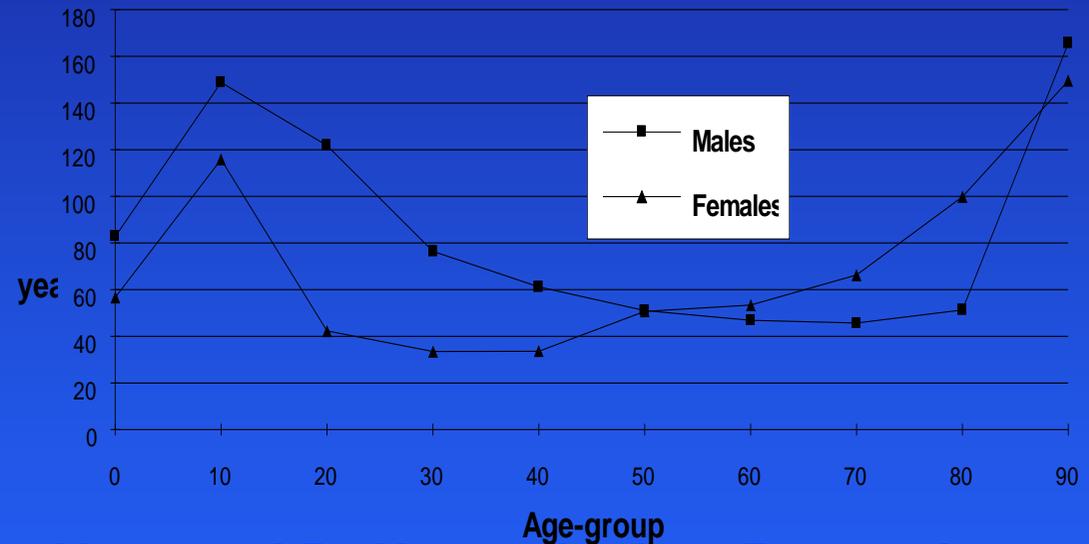


Fig. 2 Accident injury rates in Harstad by age-group and sex  
Insidens per 1000



Ytterstad B: Harstad Injury Prevention Study

UIT 1995. Data 1985-1993.

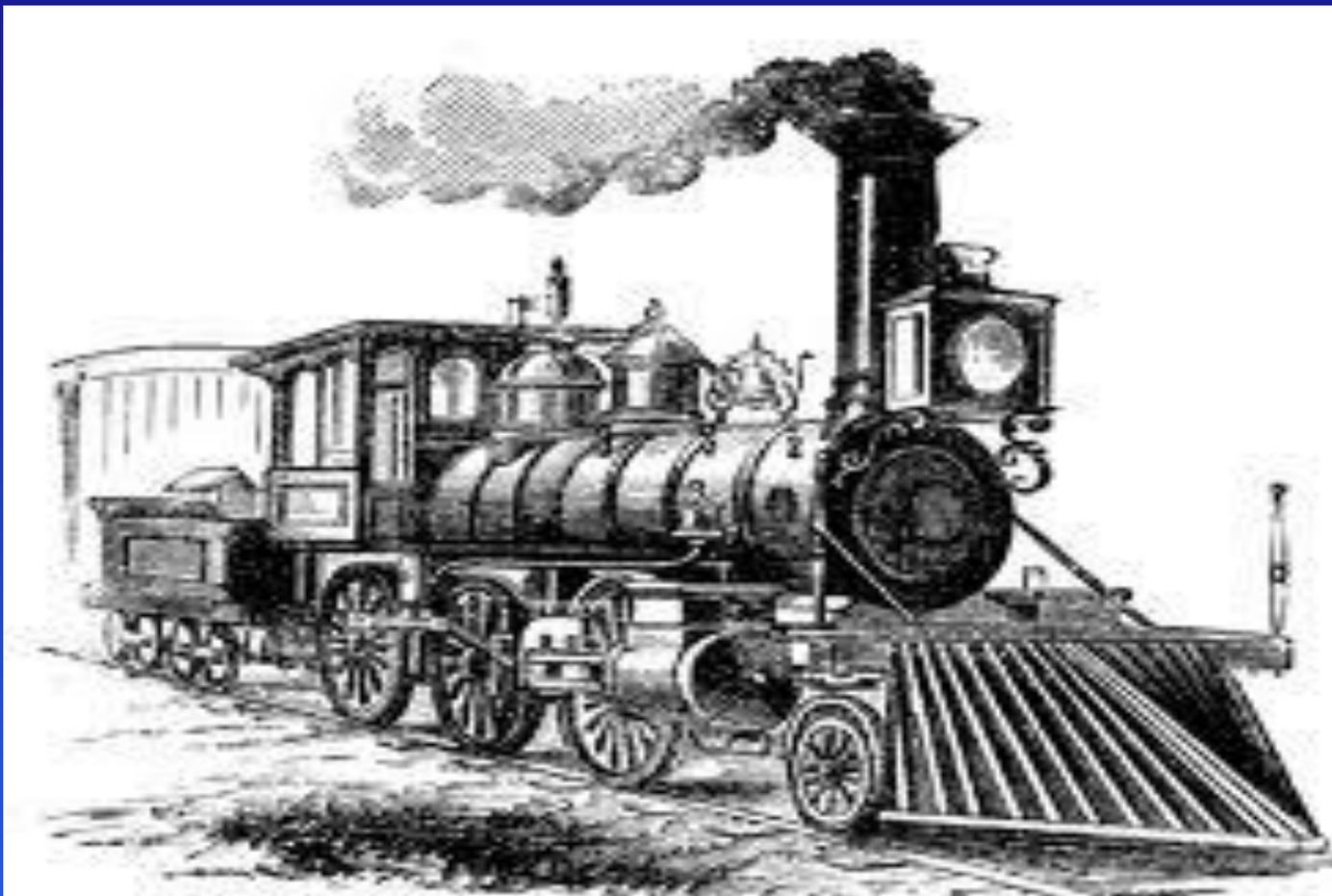
Guldvog, Ueland, Thorgersen: SIFF  
1992

National estimate for 1990

# Harstad data representative for Norway

## Home Sweet Home

- Home sweet home! Dagbladet (national newspaper) reports 19th February 2013 that **30,6** of all accidents occur in private homes. Source Harstad IDB
  - Norway's Health Directorate represented by Director Public Health Dep. Jakob Linhave interviewed: We have a national IDB, not functioning so far. The numbers from Harstad are the best we have!
  - In "Rapport om skader i Norge" v/Guldvog, Ueland, Thorgersen (1992) **30,4 %** of all accidents occur in homes
  - These percentages strongly support representativity
- 
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**Lokal data is the locomotive keeping injury prevention on track**

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# The Harstad Injury Prevention Study (Thesis UIT Tromsø)

Incidence reductions from baseline to  
intervention period

- Burns in children 53 %
- Road Traffic injuries 27 %
- Fall-fractures in the aged living in private homes (mostly femoral neck) 26 %

## Cochrane reviewed studies

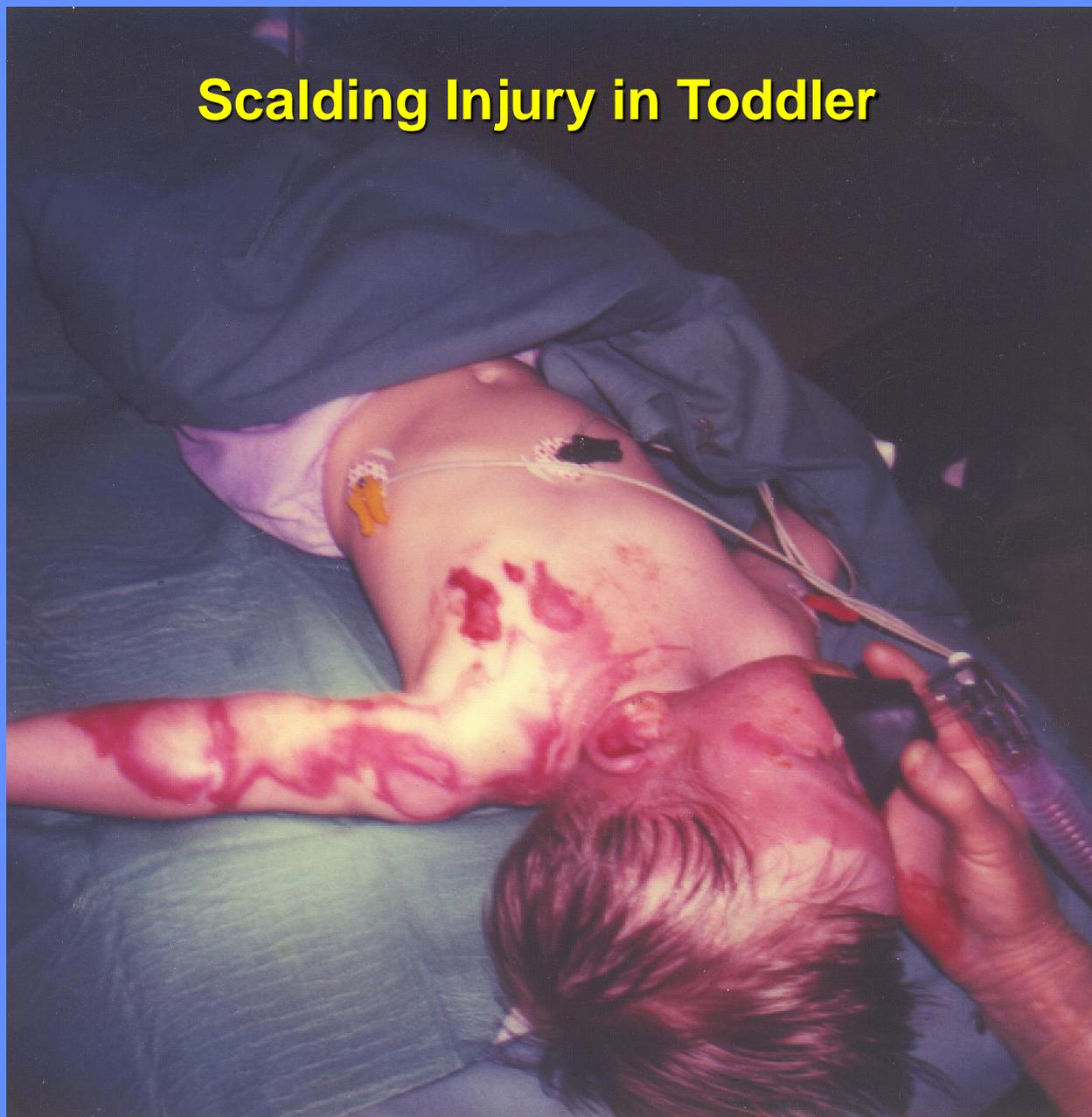
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## Scalding Injury in Toddler



# THERMAL AND CHEMICAL INJURIES IN HARSTAD 1985-89

COUNT

14

12

10

8

6

4

2

0

**Burns**      **Chemical injuries, poisonings**

0

1

2

3

4

5

6

7

8

9

10

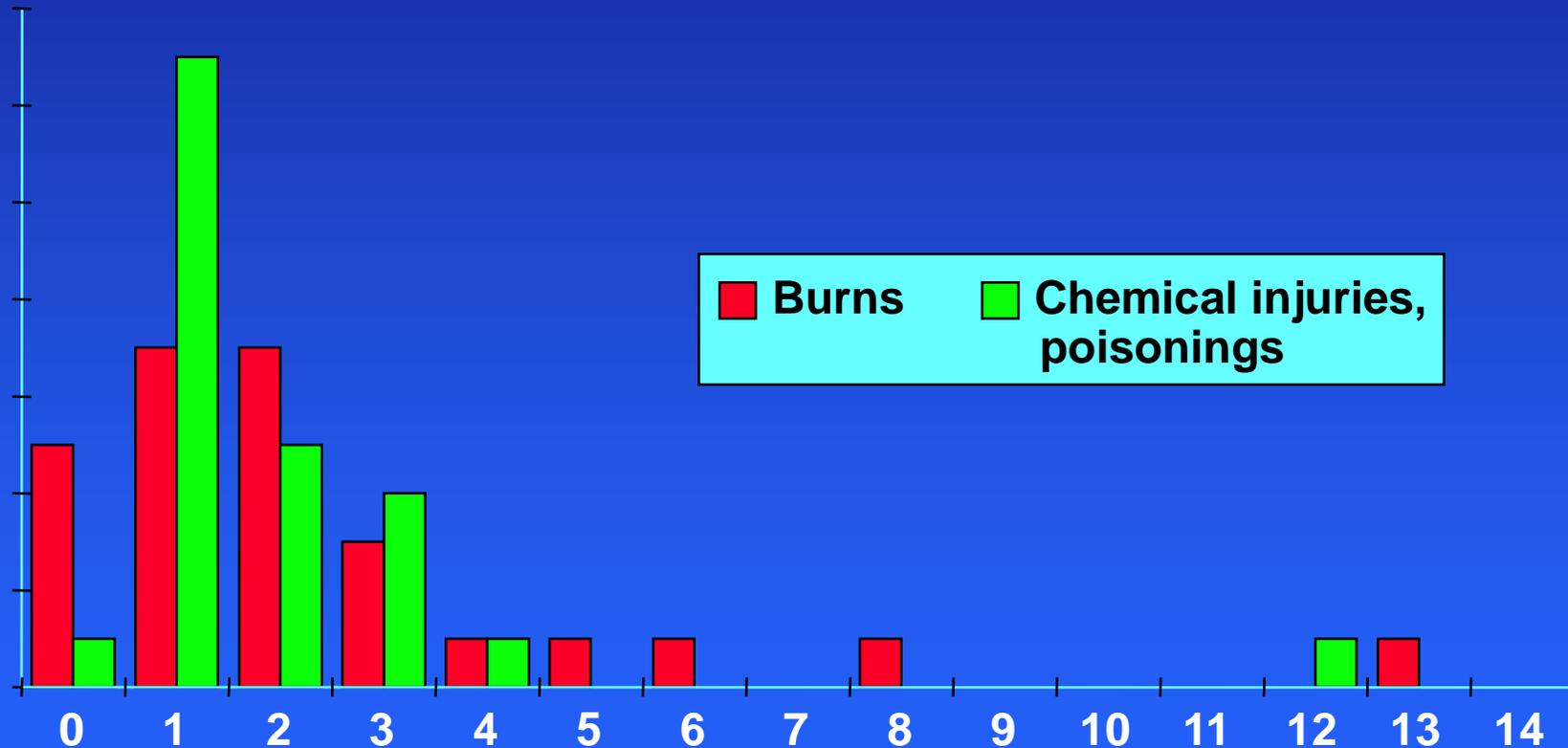
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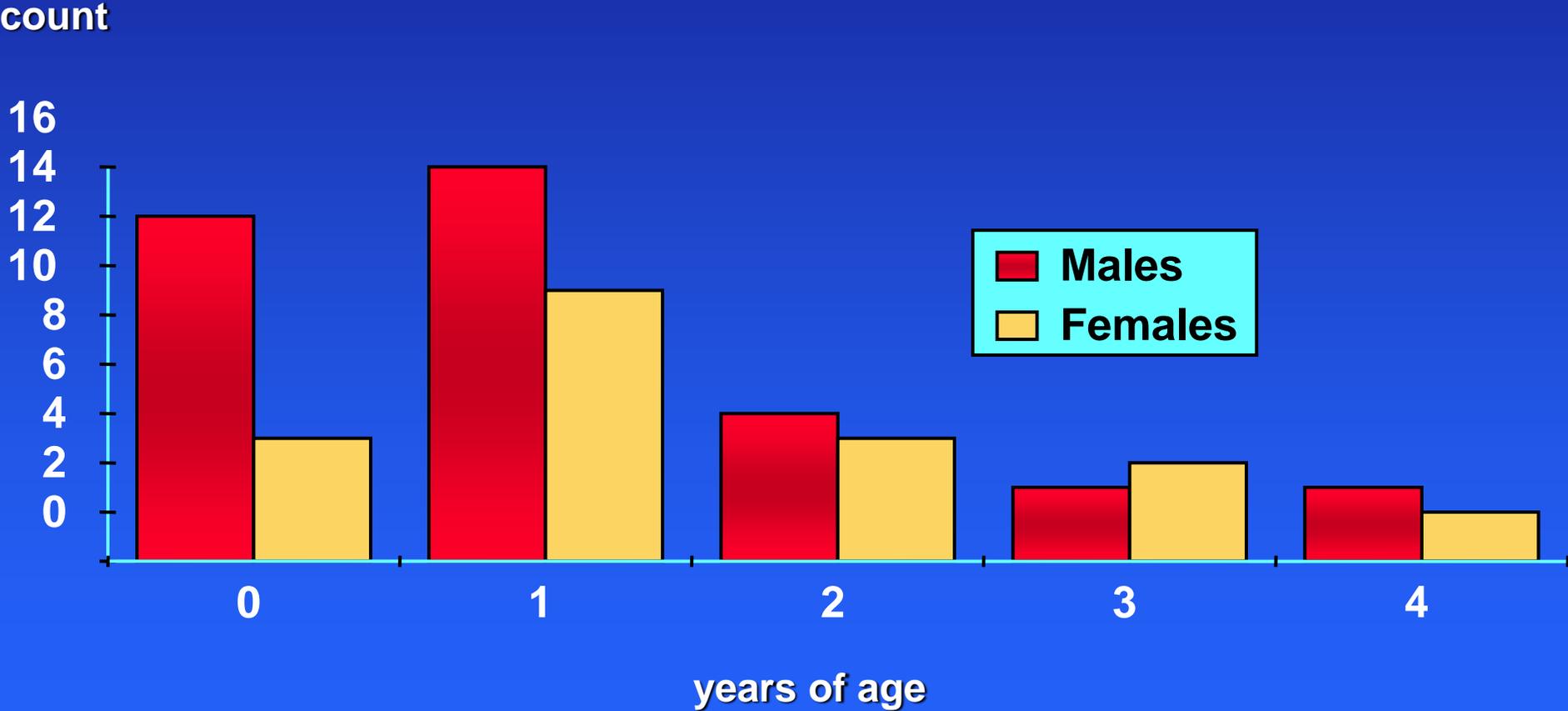
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14

AGE



# Burn injuries in children 0-4 years by gender and age



## Municipal authorities:

### Primary health care

Physicians

Public health nurses

Physiotherapists

### Technical dept

road planning

maintenance

architects

### Educational dept

schools

## MEDIA

## Injury Prevention Group

Every conceivable  
public or private  
organisation or individual  
interested in or relevant  
for the injury preventive  
work presently on the  
IPG agenda (burns)

## State/county/private organisations:

Hospital (injury secretary)

Occupational authorities

Consumer's office

Police

Traffic authorities

Driving schools

Politician(s)

National research council

National institute of public health

Pensioner's service

Red cross

Chamber of commerce

Norwegian women's

public health organisation

Farmers organisations

Insurance companies

Local interest groups

Youth clubs

Motorcycle club

Parent Teacher Association

Interest groups for handicapped

Automobile societies

Church groups

**Public health nurse Solveig  
Cares for children – leads the  
burn prevention coalition forces**



**Education, increasing  
parenteral vigilance**

**Cooker safeguard  
promotion**

**Reduce tap water tp from 65 to 55 C**

**Home assessment**

# Burns at different water temperatures

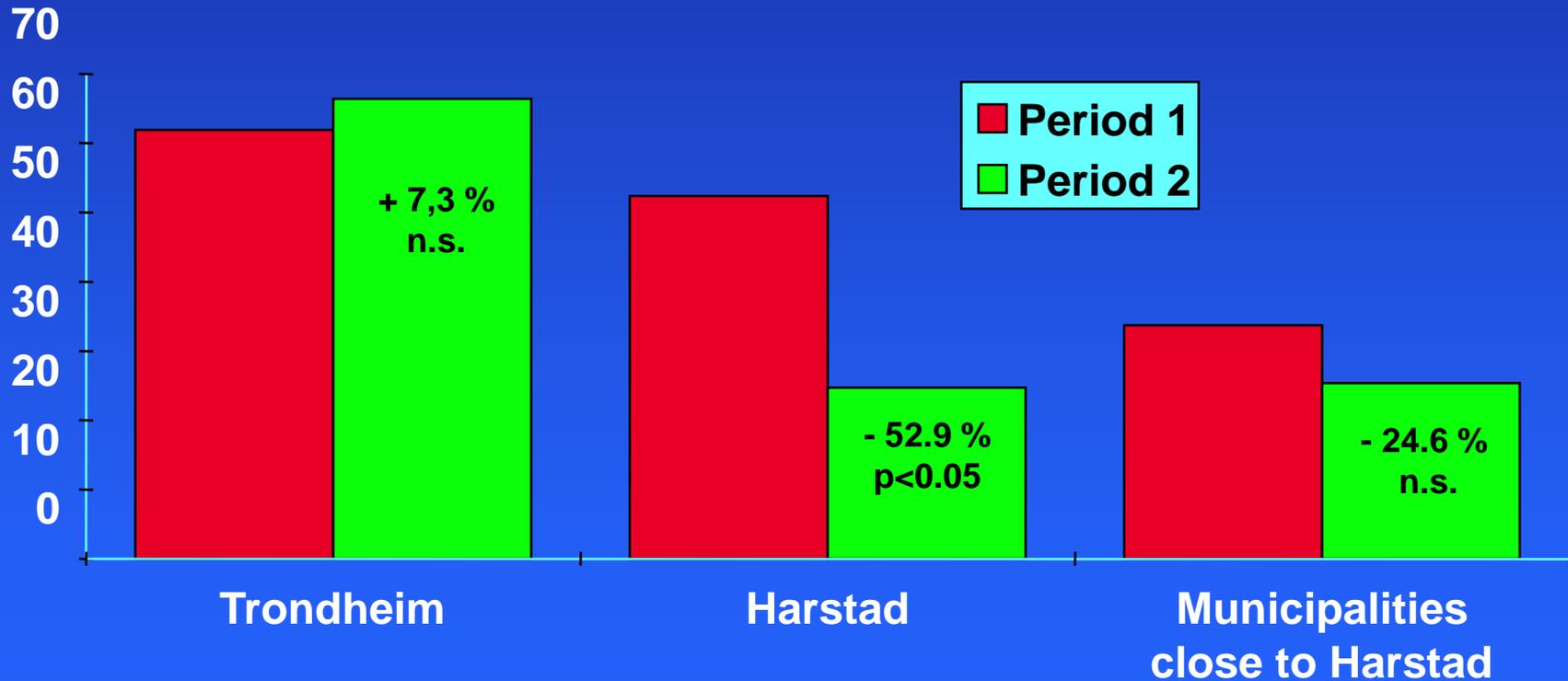
- *60-65 degrees Celsius*: exposure for 2-5 seconds gives 3. degree burn
  - *55 degrees Celsius*: exposure for 30 seconds gives 3. degree burn
- 
-

**Table III Examples of free texts classified by products and mechanism of burn injury**

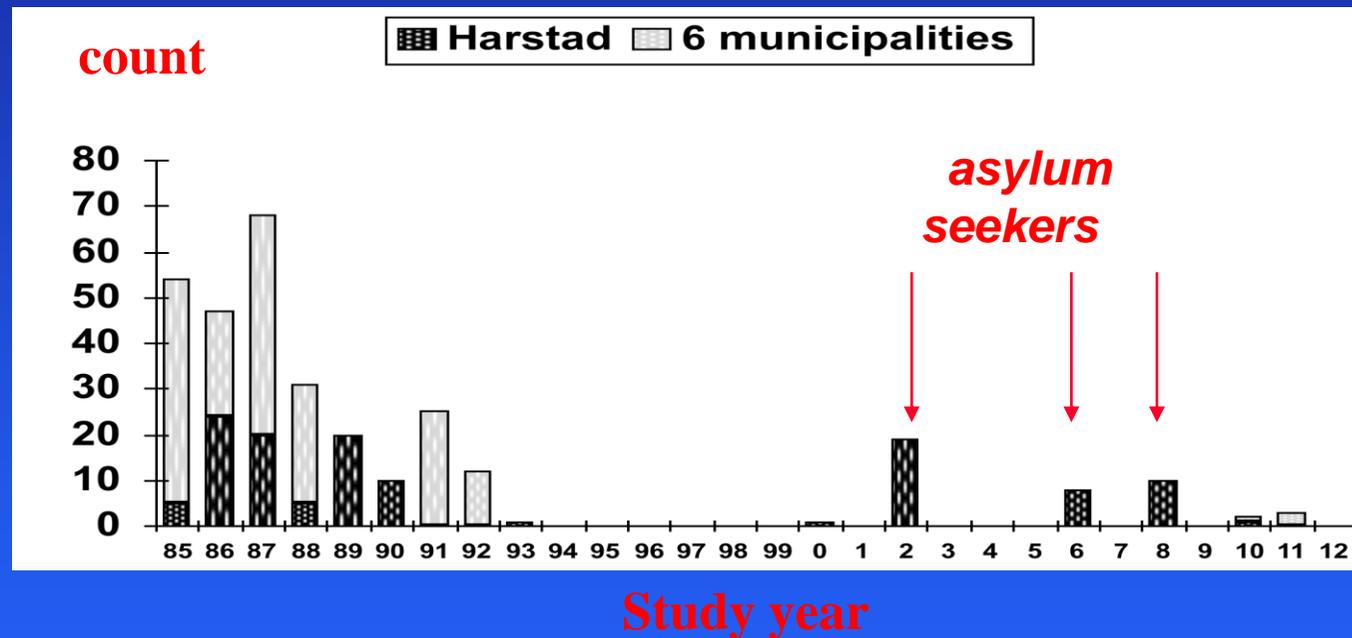
<b>Scalds</b>	upsetting cups	the child upset her mother's coffee-cup, the content spilled over the abdomen sat on lap of father who was drinking coffee, upset cup had just started to walk, pulled table cloth, upsetting coffee-cup, was scalded
	upsetting large receptacles with hot liquid	alone in kitchen, climbed the table and upset full tea-pot, getting scalded played in living-room, upset coffee-pot and was scalded stood besides living-room table, upset pot with hot water
	upsetting large receptacles with boiling liquid from stoves	pulled down casserole with boiling egg-water from stove pulled down coffee-kettle from stove played in kitchen, pulled down from stove a casserole with boiling oat-meal climbed chair close to the stove and pulled down coffee-kettle from stove
	from tap	climbed into bath-room sink and was scalded when opening hot-water tap she and her twin sister got into bath-room, was scalded from tap
	electrical iron	mother was ironing, she turned away for a moment, the child overturned the iron and was burnt on hand
<b>Contact burns</b>	electrical stove for cooking	burnt hand on cooker
	electrical stove for heating	placed hand on stove fell from chair on stove placed both hands on living-room stove
	wood- or coal-burning stove	placed both hands on stove, burned both hands while playing in the hall, was burnt on stove
<b>Open fire</b>	matches	played with matches, pyjamas caught fire siblings played with matches, bed-clothes caught fire
	open fire	while playing in the yard, the child ran into the open fire

# Burn injury rate changes in three populations of children 0-4 years of age.

injured per 10,000 person years

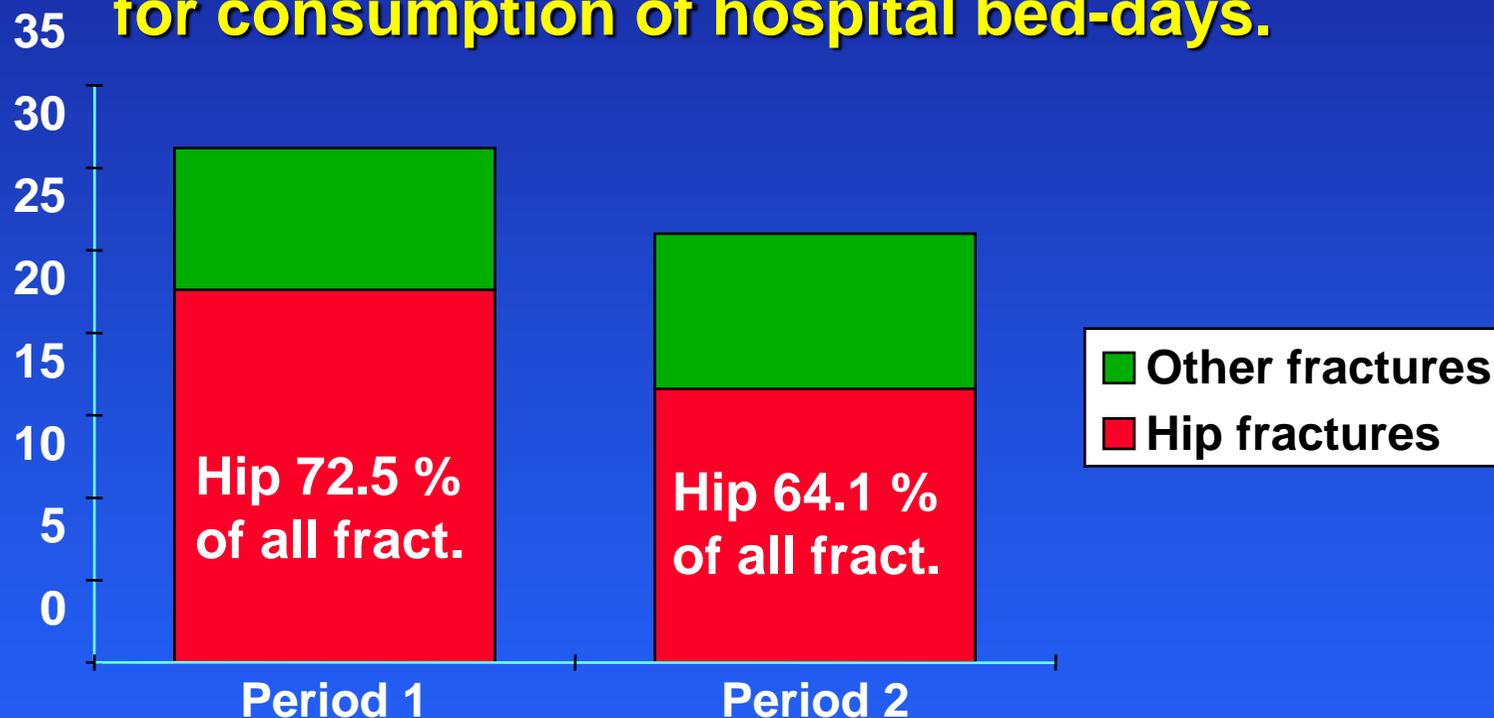


# Hospital bed-day consumption burns in children 0-4 years



New prevention strategies needed for overcoming barriers e.g. language and cultural

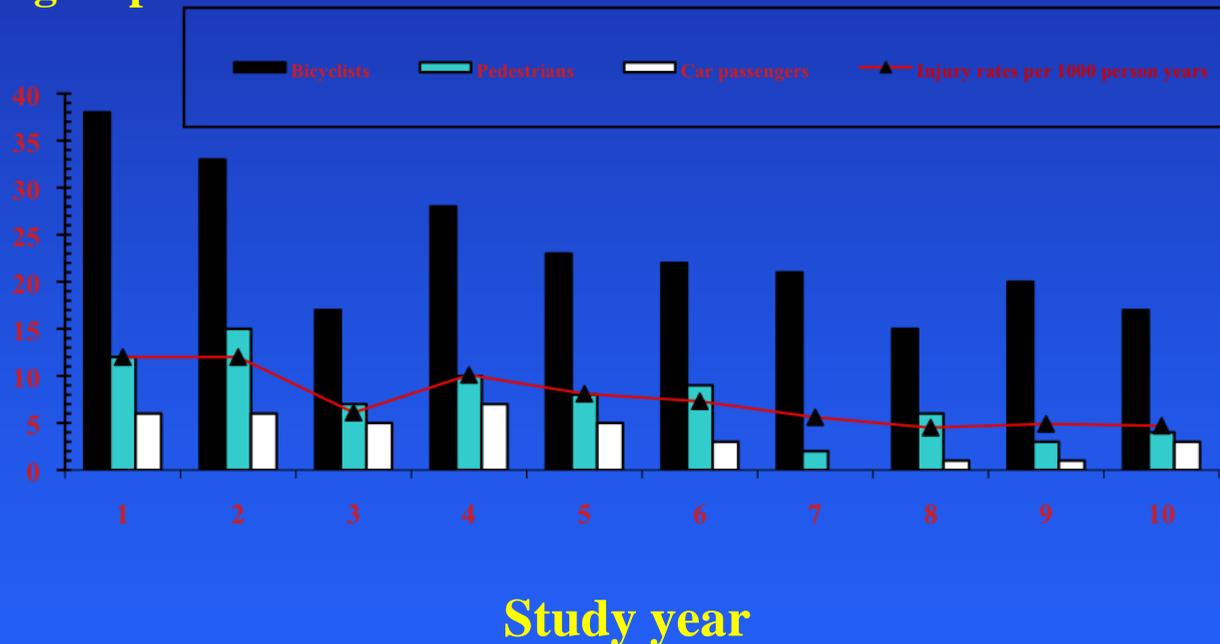
**Short-term hospital cost of treatment of accidental fall-fractures in homes for persons 65+ years old. Rates for Harstad residents are shown for period 1=3 years and period 2=5 years (per 100 person years), for consumption of hospital bed-days.**



By extrapolating the rate for period 1 to period 2 and subtracting the observed bed-day consumption rate from the extrapolated rate, a savings of 24 hip fractures may be calculated (one mill US \$)

# Traffic injury counts by road user groups and injury rates for Harstad children 0-15 years

Count for road user groups



# **Harstad IDB all municipalities 1994-2012**

**65880 injuries during 19 years are recorded in the IDB of**

**Harstad Hospital**

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# Burns and explosions registered during 1994-2012

- Of 64880 injuries total
  - Code injury mechanism 70: Burns 784 - 1,2 % of all injuries. 88 admitted to hospital (11,2 %)
  - Code accident mechanism 80: Explosions 177 - 0,3 per cent of all injuries. 67 admitted to hospital (40 %)
- 
-

## 784 thermal injuries Harstad\* Per cent products and materials involved

	Stoves	Pans	Cups/ bowls	Kettles	Frying fat	Boiling water	Petrol products	Other
Thermal	12,1	8,8	7,8	4,8	3,1	2,6	2,6	58,2

\* Males 57 %, Mean 41 per year

## 784 thermal injuries\* Place of injury per cent

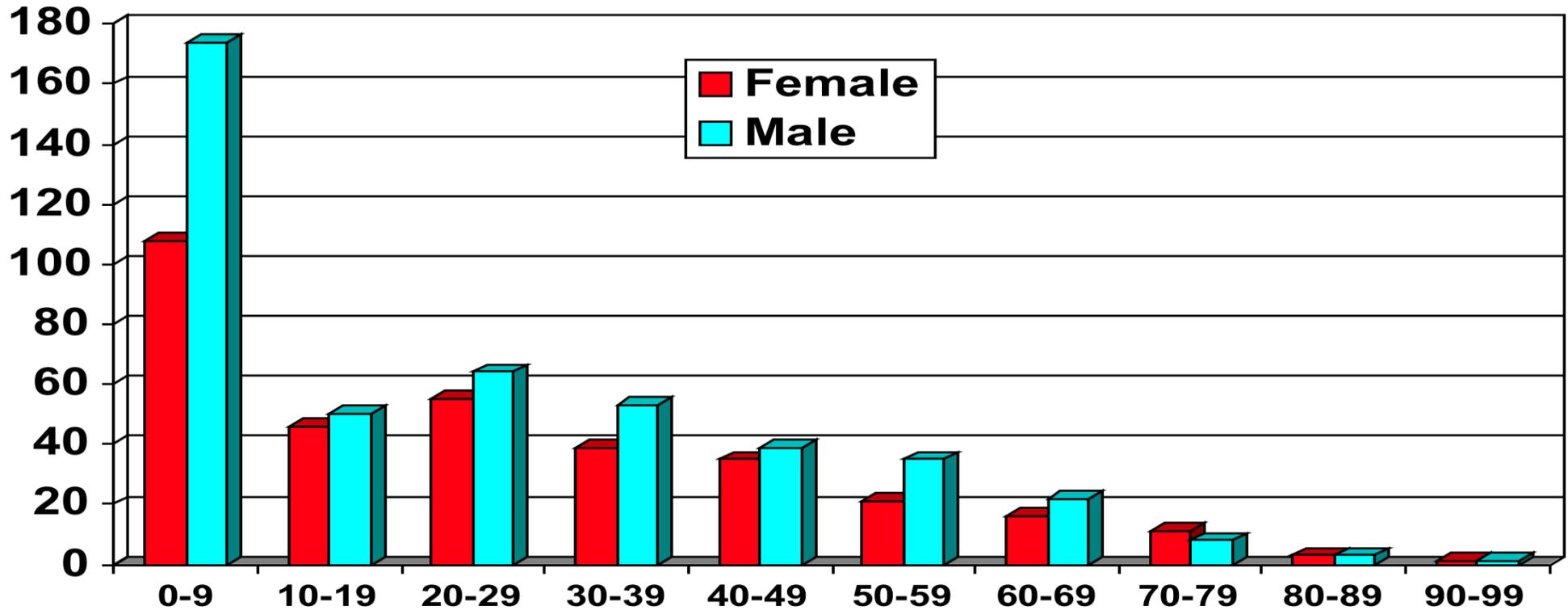
	Private homes	Transport area	Production*	Restaurants bars	Swimming hall	Other
Thermal	58	2	5	4	1	30

**\*\* Mechanical industry/shipyards 2,7 % - Farms 1%**

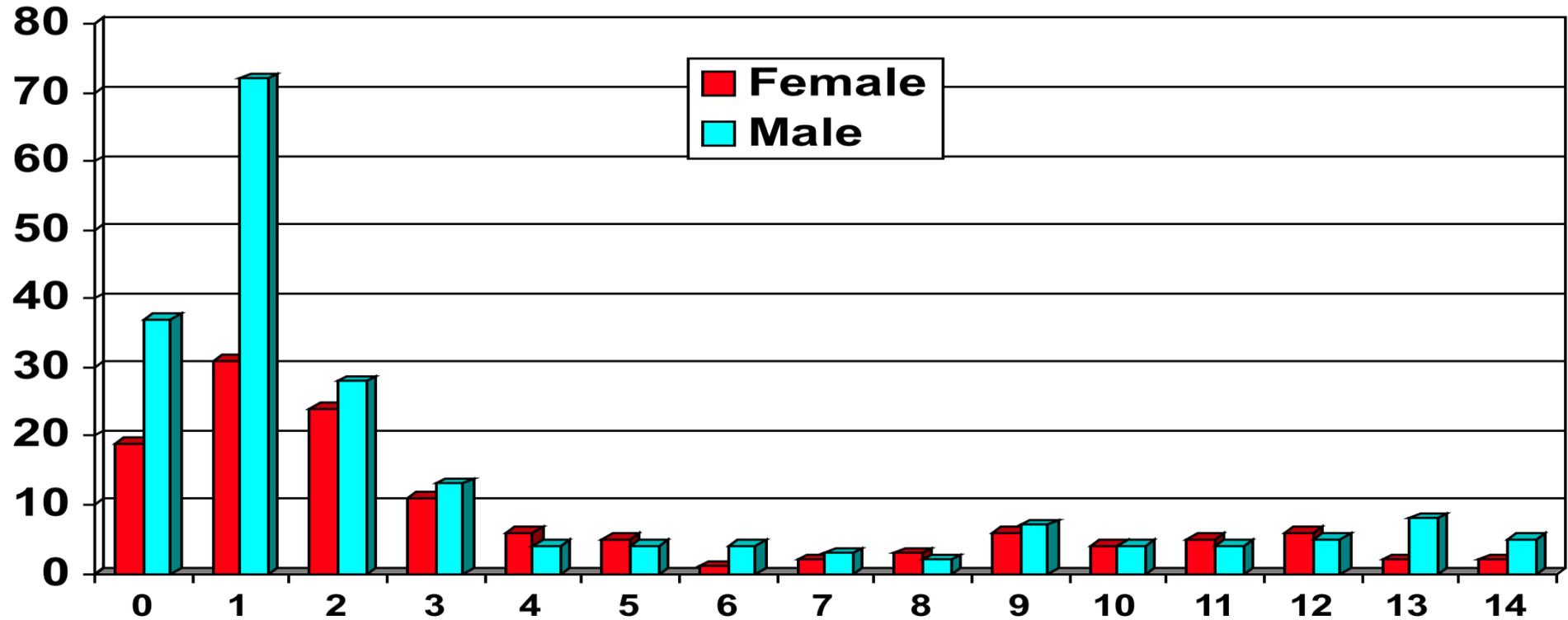
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# 784 thermal injuries all ages



# Thermal injuries children 0-14



# Some free texts fires

Fireman had leakage in mask while entering hous on fire, smoke inhalation injury

School dormitorio: The patient rested in bed. An inebriated "funny guy" sprayed him with fire extinguisher, inhalation injury

Private house. Fire with two dead from smoke inhalation

Tried to extinguish fire with water and powder extinguisher, smoke inhalation injury

Eskaped fire through window to roof. Smoke inhalation injury

# Potential of high quality IDB

- **Analysing injuries in terms of where, when and how they happen**
  - **Finding targets for intervention**
  - **Planning interventions according to local panorama**
  - **Using evidence-based strategies and intervention programs**
  - **Evaluation of interventions in terms of hard outcomes**
  - **Academic merit for practitioners**
- 
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**Thank you for your attention**

