

# Update projects 'Statistics on fatal residential fires' and 'Upholstered furniture and mattresses'

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## Fatal residential fires in The Netherlands

Annual review 2016



## Fire safety of upholstered furniture and mattresses in the domestic area

European fire services recommendations on test methods



# Fatal residential fires: European risk profiles

## Goal of this EuroFSA project

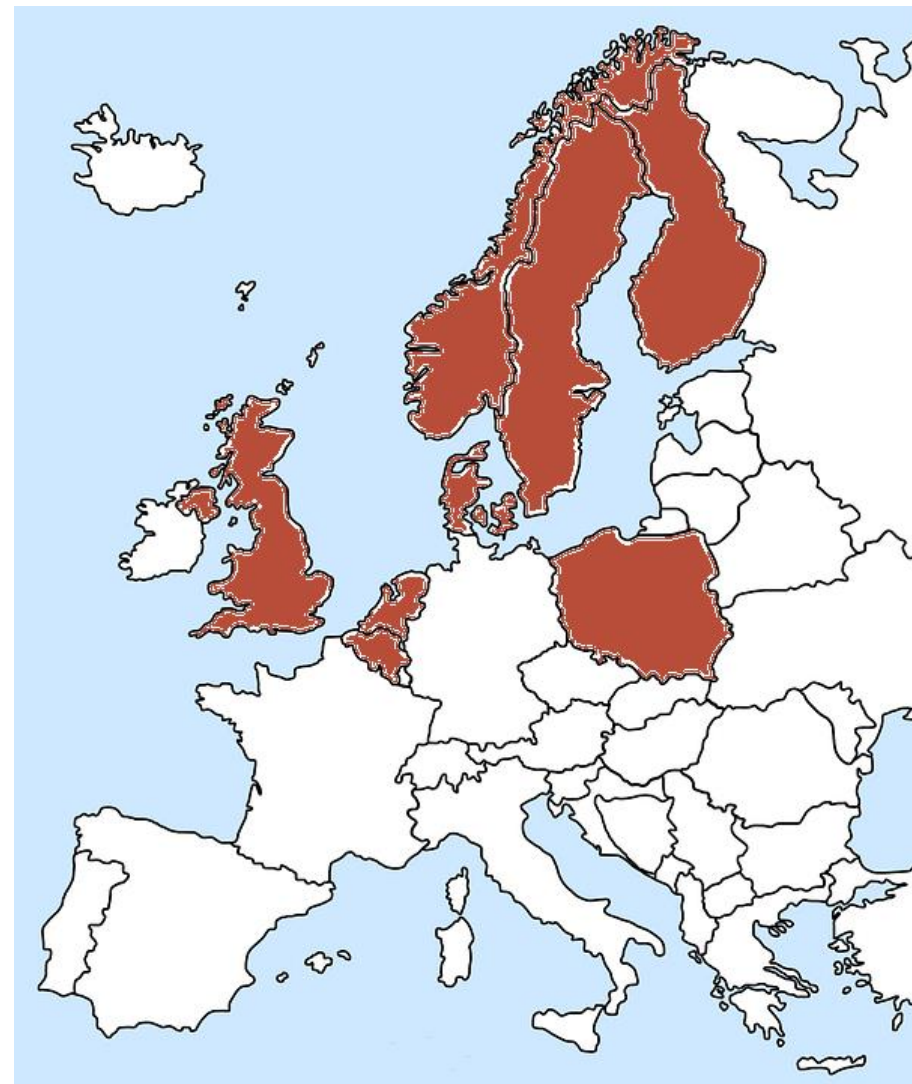
- ▶ Gathering statistics and building up a network in at least five European countries (2017)
- ▶ Annual review of fatal residential fires in these countries (2018)
- ▶ Research on how many and which countries for a-select statistics (2018)
- ▶ Annual review of fatal residential fires in Europe (2019)

# Objective

- ▶ The objective is to explore the already available information on fatal home fires in designated European countries

*(Finland, Norway, Sweden, Denmark, Belgium, Poland, the UK, and the Netherlands)*

and to draw up risk profiles at country level  
and at European level



# Timeline and results (1)

- ▶ Phase 1: Literature review
  - Almost completed
    - Overview of ‘common’ or ‘risk’ factors per country
    - Overview of databases, data collection and definitions
    - Translation of questionnaire used for fatal residential fires in the Netherlands
- ▶ Phase 2: Database review
  - starting in June

## Information known in literature

- ▶ Meta-analysis on fatal fires in high income countries by Turner et al. (2017)
  - Predominately the USA and Canada
  - Variation in quality of the reviewed studies (low to medium)
  - Findings can be used for comparison with European data
- ▶ Different studies in Europe at country level
  - Variation in quality of the reviewed studies
  - Variation in size and depth of the review studies
  - Variation in method of data collection and definitions

# General view of definitions (1)

- ▶ Risk factor for fatal residential fires, as mentioned in literature
  - ✗ Most frequent occurred factor (=> 'common factor')
  - ✓ More frequent occurred related to non-fatal fires / all fires
  - ✓ More frequent occurred related to demographic statistics

*Example of common factor, no risk factor: "Most fatal domestic fires in Norway take place in detached houses (54%), though the majority of Norwegians (also 54%) lives in detached houses."*

In phase 2 we attempt to discriminate on the levels of the (risk) factors, in order to make a comparison between different studies possible



## General view of definitions (2)

### Unintentional fatal residential fires

- ✓ Variation in ‘unintentional’: In/excluding fires with homicide or suicide
- ✓ Variation in ‘fatal’: In/excluding natural death, causes other than smoke and heat, deceased in hospital and/or after specific period
- ✓ Variation in ‘residential’
  - Expressions: home, housing, domestic, dwelling, residential
  - In/excluding student flats, nursing homes, mobile homes, houseboats, vacation houses et cetera
- ✓ Variation in ‘fire’: In/excluding explosions and/or faulty combustion

# Common factors (preliminary analysis)

Sociodemographic factors		UK	Norway	Sweden	Denmark	Finland	Poland	Belgium
Gender	Male	Yes (40-60 yrs)	Yes (some age groups)	Yes	Yes	Yes (60-69 yrs)	Yes	Yes
	Female	No	No	No	No	No	No	No
Age	Elderly	Yes	Yes	Yes	Yes (>50 yrs)	Yes (Pensioner)	Yes (>20 yrs)	Yes (> 60 yrs)
	Middle-aged	No	No	No	No	No	Yes (>20 yrs)	No
	Young adults / adolescents	Yes	No	No	No	No	Yes	No
Impairment	Physical disability	Yes	Yes (>67 yrs)	?	?	?	?	?
	Mental disability	Yes	Yes	?	?	?	?	?
Living situation	Living alone	No	Yes	?	?	Yes	Yes	?
	Single parent household	Yes	No	?	?	No	No	?

# Common factors (preliminary analysis)

Behavioural factors		UK	Norway	Sweden	Denmark	Finland	Poland	Belgium
Fire cause	Smoking	Yes	Yes	Yes	Yes	?	?	?
	Behaviour/ carelessness	?	Yes	?	Yes	?	Yes	?
Limited alertness /Under influence	Alcohol	Yes	?	Yes	?	Yes	Yes	?
	Drugs	Yes	?	?	?	?	?	?
Location of victim	Room of fire origin	?	No	?	?	?	Yes	?
	Outside room of fire origin	?	No	?	?	?	No	?

# Common factors (preliminary analysis)

Building factors		UK	Norway	Sweden	Denmark	Finland	Poland	Belgium
<b>Dwelling type</b>	Apartment	?	Yes	Yes	Yes	No	?	?
	Single family houses	?	No	Yes	No	No	?	?
	Detached house	?	No	No	No	Yes	?	?
	Care homes/ protected residential	?	No	No	Yes	No	?	?
<b>Number of floors</b>	More than one floor	?	?	Yes	?	?	?	?
<b>Smoke detector</b>	Non-present	?	?	Yes	?	?	?	?

# Common factors (preliminary analysis)

Fire factors		UK	Norway	Sweden	Denmark	Finland	Poland	Belgium
<b>Fire ignition room</b>	Living room	?	Yes	Yes	Yes	?	Yes	?
	Bedroom	?	Yes	Yes	No	?	Yes	?
<b>Source of the fire</b>	Smoking materials	Yes	?	No	No	?	No	?
	Bed	No	?	Yes	Yes	?	No	?
	Furnishing	No	?	Yes	No	?	No	?
	Armrest chair/sofa	No	?	Yes	No	?	No	?
	Clothing	No	?	Yes	No	?	No	?
<b>Time</b>	Winter	?	Yes	Yes	Yes	?	?	No
	End of week/weekends	?	No	Yes	No	?	?	No
	Evening/night (when victim is presumably sleeping)	?	No	Yes (2-3 a.m.)	No	?	?	Yes

# Common factors (preliminary analysis)

Other factors	UK	Norway	Sweden	Denmark	Finland	Poland	Belgium	
<b>Cause of death</b>	Asphyxiation	?	Yes	No	?	?	No	?
	Toxic effect CO	?	Yes		?	?	No	?
	Exposure to toxic gases	?	No	Yes	?	?	No	?
	Burns	?	No	No	?	?	Yes	?
	Effects of gases other than CO	?	No	No	?	?	Yes	?
<b>Number of people present in fire comp. when FB arrives</b>	One person	?	?	Yes	?	?	?	?
<b>Living area</b>	Rural area	?	?	Yes	?	?	?	?
<b>Income</b>	Low	?	?	?	?	Yes	?	?
<b>Marital status</b>	Divorced	?	?	?	?	Yes	?	?

## Next step

### ▶ Phase 2: Database review

Starting in June, expected results:

- Overview of (missing?) values of variables per most important items in translated questionnaire, per country
- Discrimination between common factors and risk factors
- Overview of risk profiles per country
- Conversion to European risk profile
- Recommendations for follow-up actions

## Corporation with Germany

- ▶ Translated questionnaire in German
- ▶ Set up German version of the internet questionnaire
- ▶ Testing by Berlin Fire Brigade?
- ▶ Meetings with the VFDB about comparable statistics on fatal domestic fires



# Fire safety of upholstered furniture and mattresses in the domestic area

## Impression tests IKEA upholstered furniture and mattresses



## Fire safety of upholstered furniture and mattresses in the domestic area

European fire services recommendations on test methods



## Goal of this FEU project (with support of EuroFSA)

- ▶ European fire service recommendations on test methods (2017)
- ▶ Convince a big 'first mover' (2017/2018)
- ▶ Convince other international manufacturers and EU (2018)

## Next steps (situation November 2017)

- ▶ Recommendations in businessplan ‘first mover’ (2017/2018)
- ▶ Present recommendation on ‘furniture’ congresses (2018)
- ▶ Corporation with ‘first mover’ to convince other manufacturers (2018)
- ▶ Discuss recommendations with national governments, consumer organisations and standardisation bodies by national fire services (2017/2018)

# Update June 2018 (1)

- ▶ Recommendations in businessplan ‘first mover’ (2017/2018)
  - Recommendations in businessplan
    - Member of EFIC
  - Approval by the board
    - Cigaret and open flame test → implement
    - Crib 5 test → commitment
    - Mattresses → not yet
  - Large scale pilot (1 year)
    - New impression tests
    - Liason
    - Decission on world wide use

## Update June 2018 (2)

- ▶ Present recommendation on 'furniture' congresses (2018)
  - Presentation on a small scale started
  - Nomination Fire Forum Award Belgium
  - Nomination IFV corporation award
  - Articles in magazines and newspapers (Belgium, Sweden, The Netherlands)

## Update June 2018 (3)

- ▶ Corporation with ‘first mover’ to convince other manufacturers (2018)
  - New ‘Memorandum of Understanding’ between IKEA and IFV/Fire Service Netherlands with this objective

## Update June 2018 (4)

- ▶ Discuss recommendations with national governments, consumer organisations and standardisation bodies by national fire services (2017/2018)
  - January 2018 meeting with Dutch Consumer safety Authority
  - June 28<sup>th</sup> 2018 roundtable meeting organized by the Dutch Ministry of Health
  - Meeting with Swedish ministry
  - Bilateral meetings with manufacturers and retailers



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