



Lars **Anderman**

Johan **Schön**

- Forskningar och studier kring vår arbetsmiljö
- Statistik gällande fallolyckor i Sverige
- Vad vill vi göra för en bättre arbetsmiljö

Sir Percival Pott

(1713-1788)

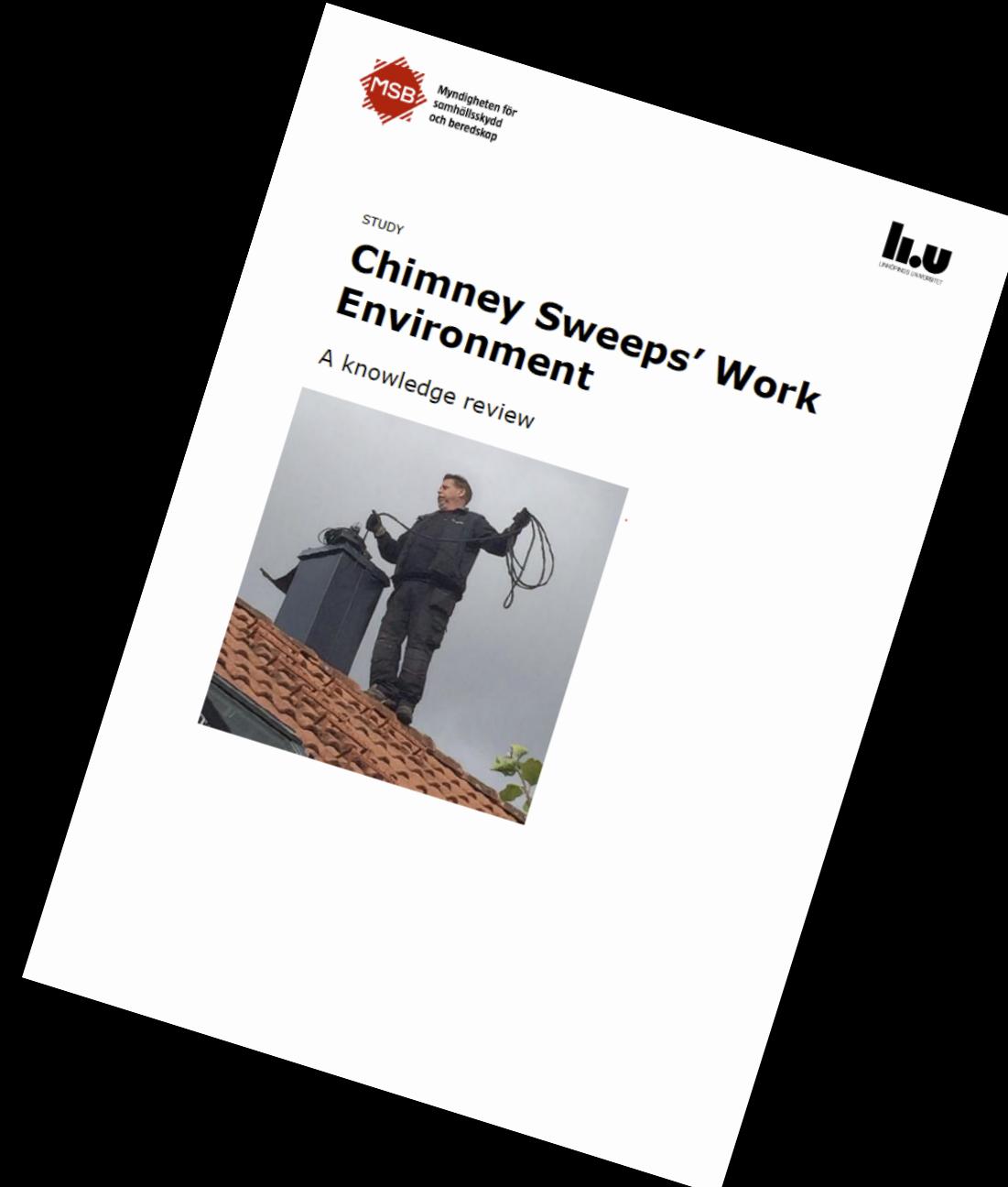
In 1775, Sir Percival Pott, a surgeon in England, saw a clear connection between exposure to soot and cancer (scrotum cancer) in chimney sweeps.

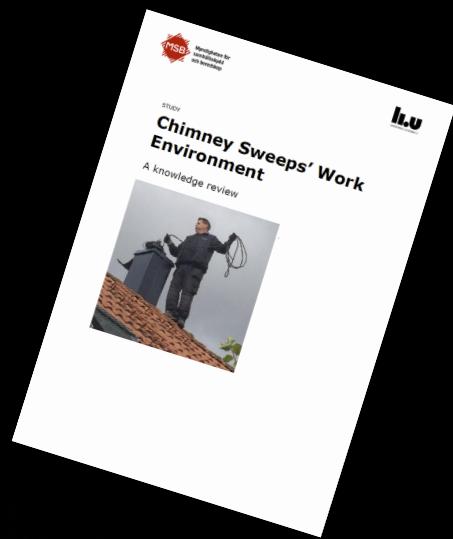
This is considered to be the first connection between exposure in an occupation and cancer.



Martina Berglund

Linköping Universitet





Sammanställning

Study	Study focus	Studied time period/s	Number of studied chimney sweeps
Hogstedt et al (1982)	Cause of death	1951-1979	2048
Gustavsson et al (1987)	Cause of death	1951-1982	5464
Jansson et al (2012)	Cause of death	1952-2006	6374
Hogstedt et al (2013)	Cancer	1958-2006	6320
Gustavsson et al (2013)	Cardiovascular disease	1991-2005	4436
Alhamdow et al (2016)	Eye and respiratory problems	1975-1999, 2000-2009, 2011	483

- 
- POLYAROMATISKA KOLVÄTEN (PAH)
 - KOLPARTIKLAR
 - NICKEL
 - BLY
 - KROM
 - KADMIUML
 - ASBEST
 - KOLMONOXID
 - SVAVELFÖRENINGAR
 - KVÄVEOXIDER
 - DAMM
 - KEMIKALIER



Sammanställningen
visar att sotare har
procentuell högre risk
än normalt i följande
fall:



HJÄRTINFARKT,
KÄRLKRAMP **21%**

A collage of winter-themed images. On the left, there's a wicker basket containing a lit candle with a warm glow. Next to it is a red Christmas stocking hanging from a hook. In the background, there's a stack of firewood and some colorful, patterned fabrics or decorations.

MAGCANCER 25%

A collage of images on the left side of a vertical line. It includes a wicker chair, a red stocking hanging from a log wall, a lit candle, and a fire.

SJÄLVMORD **36%**



KRONISK OBSTRUKTIV
SJUKDOM (KOL) **52%**

The background of the image is a collage of various photographs related to wood burning. It includes a close-up of a red fire poker, a stack of logs, a wicker basket filled with kindling, a lit fireplace with glowing embers, and a wood stove with a red fire. The overall aesthetic is rustic and emphasizes the theme of wood as a fuel source.

TARM
CANCER 72%



ASTMA, BRONKIT,
EMFYSEM **72%**



PSYKISK SJUKDOM 91%

The background of the image is a collage of various photographs related to wood burning. On the left, there's a close-up of a wicker basket containing logs. Above it, a red cloth is draped over a stack of logs. To the right, a large pile of stacked logs is shown against a dark background. In the center, a framed photograph depicts a bright fire with orange and yellow flames. A vertical white line runs down the middle of the image, separating the left side from the text area.

LUNG CANCER 94%

A collage of winter-themed images. On the left, there's a close-up of a lit fireplace with bright orange and yellow flames. Next to it is a stack of neatly stacked firewood. In the top right corner, there's a red Christmas stocking hanging from a dark background. The bottom right features a large pile of logs with some glowing embers or fire at the top. The overall aesthetic is cozy and festive.

SKRUMPLEVER
109%



MATSTRUPSCANCER
114%

A collage of images on the left side of a vertical line. On the far left is a close-up of a red Christmas stocking hanging from a tree. Next to it is a wicker basket overflowing with various sizes of logs. To the right of the basket is a stack of logs against a dark background. A thin white vertical line separates this from the central text area.

LEVERCANCER 122%

The background of the image is a collage of various photographs. On the left, there's a close-up of a lit fireplace with bright orange flames. Next to it is a stack of cut logs. In the foreground, a single lit candle in a glass holder is visible. The right side of the image is dominated by a large stack of logs, some of which are burning. A red Christmas stocking hangs from a hook on the wall above the logs.

ALKOHOLISM 127%

Ser det bättre ut idag?

Post-graduate student A Alhmadow's thank you list

My supervisors

Karin Broberg
Håkan Tinnerberg
Per Gustavsson
Maria Albin

- All participants in our studies
- Swedish chimney sweeps trade union (Kommunal)
- Sveriges Skorstensfejarmästares Riksförbund (SSR)

Nurses & biomedical analysts

Pia Tallving
Patrice Milton
Åsa Amilon
Eva Assarsson
Göte Mölleby
Ina Lindell

All supervisors &
colleagues at Unit of
Metals and Health
and at IMM

Halftime board

Bruna Gigante (Karolinska Institutet)
Magnus Engwall (Örebro University)
Pernilla Almerud (Göteborg University)

Collaborators

Christian Lindh (Lund University)
Jessika Hagberg and Håkan Westberg (Örebro University)
Pål Graff (Örebro University/STAMI)

My mentor

Joseph W DePierre



Swedish Research Council for
Health, Working Life and Welfare



ALF grants
(Region Örebro län)



Karolinska forskning har rapporterats internationellt



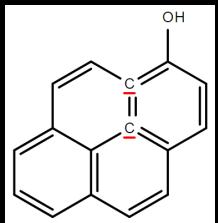
Study II – Methods:

(markers of PAH exposure and cardiovascular disease)

Markers of PAH exposure

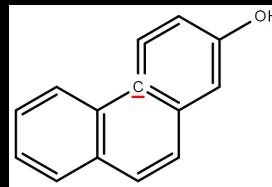
Method:

measuring PAH metabolites in urine using (LC-MS/MS)



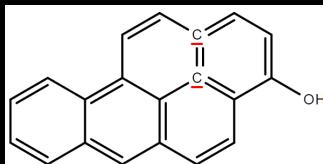
1-OH-pyrene

Group 3 (IARC)



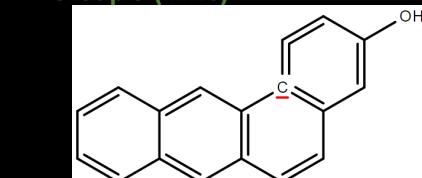
2-OH-phenanthrene

Group 3 (IARC)



3-OH-benzo[a]pyrene

Group 1 (IARC)



3-OH-benzo(a)anthracene

Group 2B (IARC)

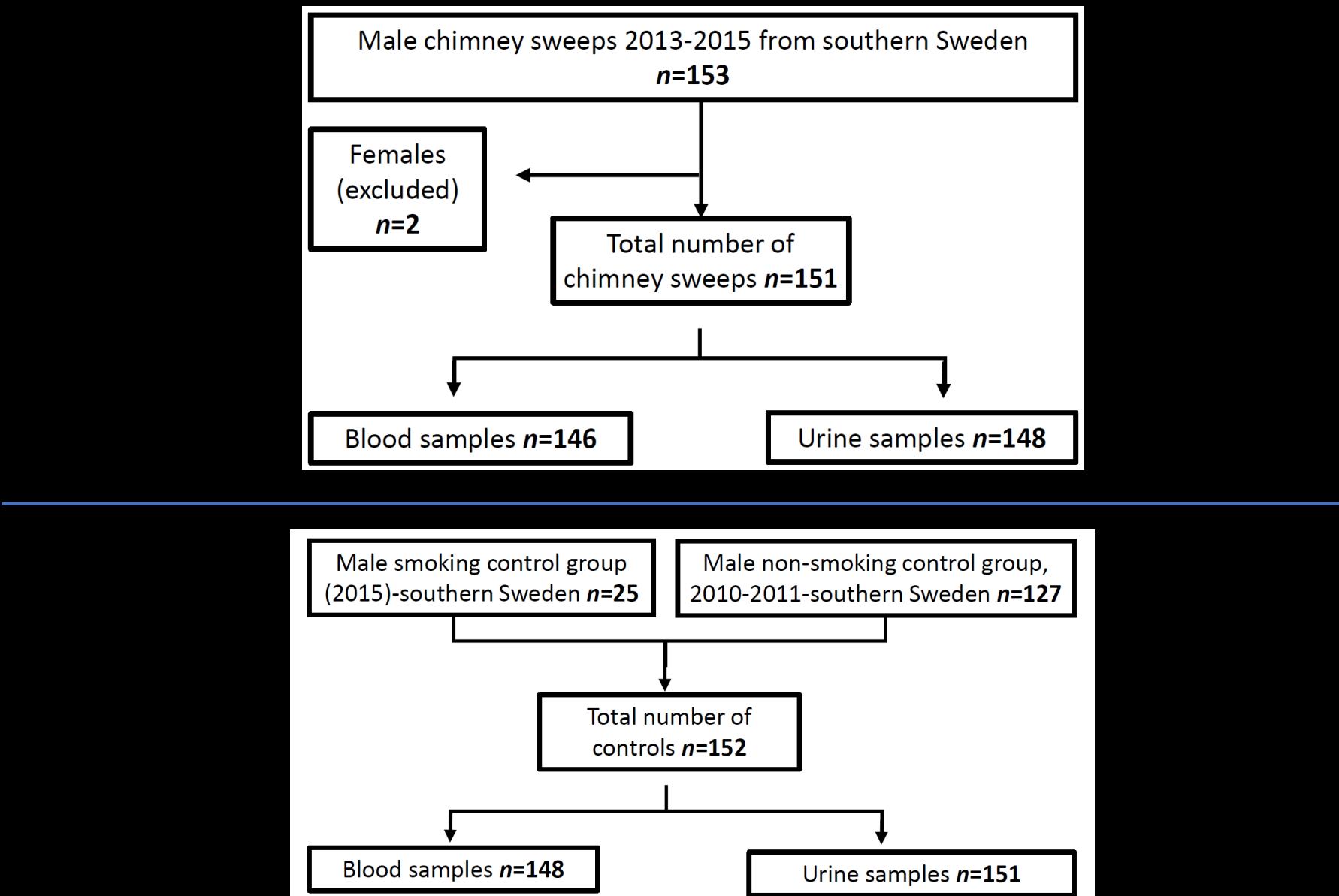
Markers of cardiovascular disease

Method:

- Blood pressure (only chimney sweeps)
- C-reactive protein CRP
- Homocysteine
- γ -glutamyltransferase (GGT)
- Low-Density Lipoprotein (LDL)
↑-Cholesterol
- High-Density Lipoprotein (HDL)
- Triglycerides (TG)

Markers were measured in chimney sweeps and controls unless otherwise stated

Study II - Methods



Study II - Results

Linear (adjusted):

Chimney sweeps had higher PAH metabolites in urine (up to 7 times) compared with controls

All participants	Chimney sweeps				Controls				P [#]
	n	Median	Min	Max	n	Median	Min	Max	
1-OH-PYR*	148	0.39	0.02	8.8	151	0.06	0.00	0.73	<0.001
2-OH-PH*	148	0.57	0.08	7.1	151	0.14	0.04	3.1	<0.001
3-OH-BaP**	132	3.35	0.00	50.1	130	1.03	0.00	17.3	<0.001
3-OH-BaA**	142	4.78	0.39	43.3	144	1.66	0.04	21.0	<0.001
Only non-smokers	n	Median	Min	Max	n	Median	Min	Max	P [#]
1-OH-PYR	95	0.36	0.02	5.8	123	0.05	0.00	0.44	<0.001
2-OH-PH	95	0.50	0.08	7.1	123	0.12	0.05	3.09	<0.001
3-OH-BaP	90	2.88	0.00	16.2	105	0.88	0.00	17.3	<0.001
3-OH-BaA	92	4.16	0.39	35.0	117	1.51	0.04	6.8	<0.001

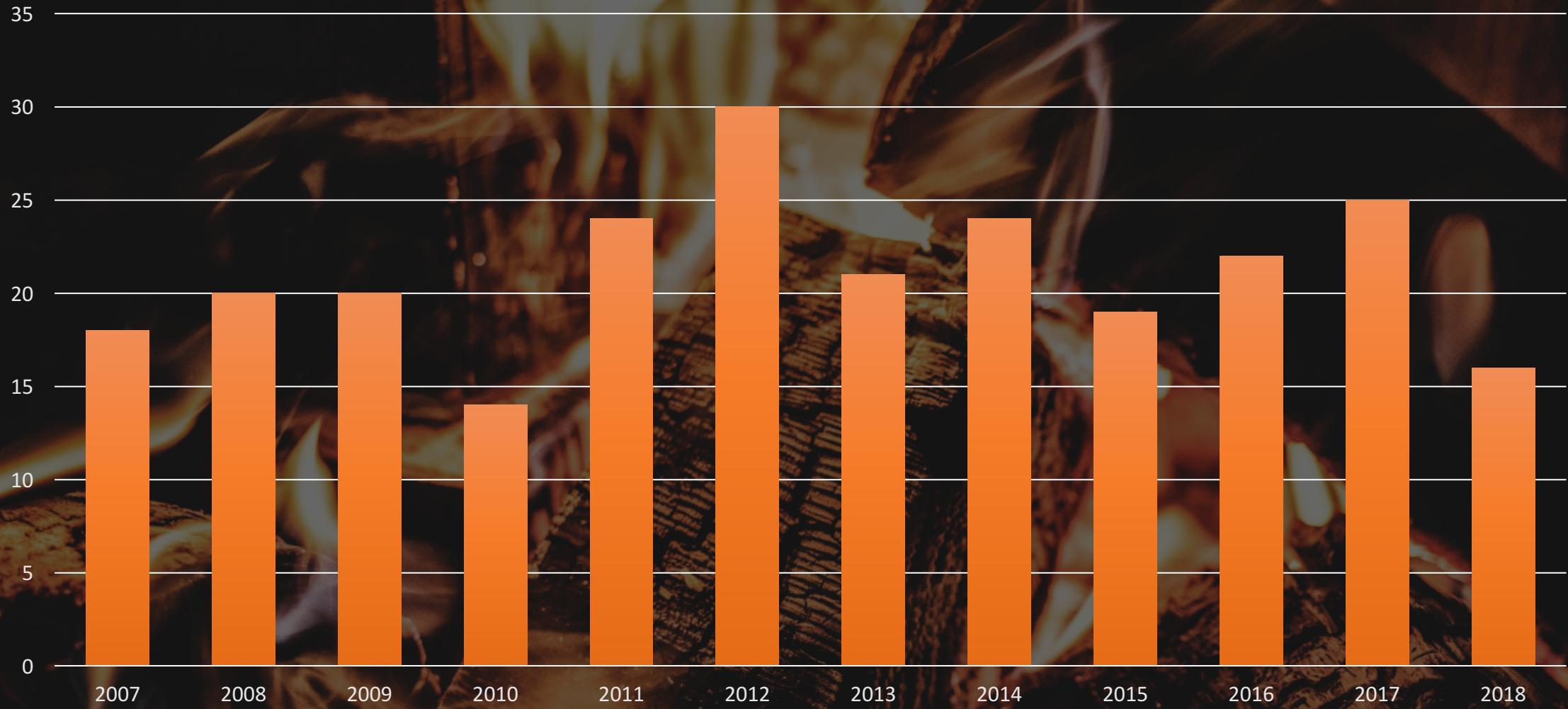
* µg/g creatinine

** ng/g creatinine

General linear model adjusted for age, BMI, and smoking status

Fallolyckor i Sverige

RAPPORTERADE FALLOLYCKOR (AFA)



- **I genomsnitt 20 fallolyckor/år som leder till sjukskrivning.**
- **Enligt statistik hos Arbetsmiljöverket så handlar 78% av samtliga arbetsmiljöolyckor om fallolyckor**
- **Ca 85 % av dessa kan direkt kopplas till stegar**
- **En uppskattad kostnad under dessa 12 år uppgår till 21 miljoner kronor (Svenska)**

Hur kommer vi att gå vidare?

A photograph of a paved road curving through a dense forest of tall pine trees. The sun is low in the sky, creating a bright lens flare on the left side of the frame. Several small birds are visible in flight against the darkening sky.

**INGEN SKA BLI SJUK PÅ GRUND AV SITT
INOMHUSKLIMAT**

**INGEN SOTARE SKA DÖ ELLER SKADAS PÅ
GRUND AV SITT YRKESVAL**

**INGA IMKANALS- ELLER
ELDSTADSRELATERADE BRÄNDER SKA
UPPSTÅ**



