

SWISS PUBLIC HEALTH CONFERENCE 2012

# **INCIDENCE AND RISK FACTORS OF HOMICIDE–SUICIDE IN SWISS HOUSEHOLDS: NATIONAL COHORT STUDY**

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- > Characteristics of victims and perpetrators
- > Individual, household and area-level risk factors
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# Homicide-suicide in Switzerland

**Neue Zürcher Zeitung**

Aktuell Meinung Finanzen Wissen Lebensart Video Dossiers Marktplätze

Startseite International Schweiz Wirtschaft Zürich Feuilleton Digital Sport Panorama

## Familiendrama von Niederbipp offenbar geklärt

Erbschaftsstreit als Tatmotiv im Vordergrund

10. Februar 2011, 16:31

Das Familiendrama von Niederbipp ist geklärt: Ein 68-jähriger Mann hat am Dienstagabend seinen Bruder und seine Mutter erschossen. Anschliessend richtete er sich selber. Als Tatmotiv steht ein Erbschaftsstreit im Vordergrund.

3 Kommer

**Tages-Anzeiger** PANORAMA

ZÜRICH SCHWEIZ AUSLAND WIRTSCHAFT BÖRSE SPORT KULTUR PANORAMA

Vermischtes Leute Wetter Bildstrecken

WERBUNG

## Familiendrama in Riehen: Ehepaar und Tochter tot in Wohnung aufgefunden

Aktualisiert am 23.09.2010

In Riehen bei Basel sind am Mittwochmorgen drei Menschen ums Leben gekommen. Die Polizei hat inzwischen eine Schusswaffe sichergestellt.

Erleichter Revision Sport People & TV Life Auto

Schweiz Regionen Ausland Politik Wirtschaft Leserreporter 8989

**Baby-Killer Paolo F.\***

## Nach Familien-Drama in Bulle stirbt auch Daisy (6)

**BULLE - FR - Am Mittwoch erschiessst der Familienvater Paolo F.\* sein Baby. Jetzt stirbt auch seine zweite Tochter (6) an ihren Verletzungen.**

Publiziert: 30.12.2011, Aktualisiert: 20.01.2012 Drucken · E

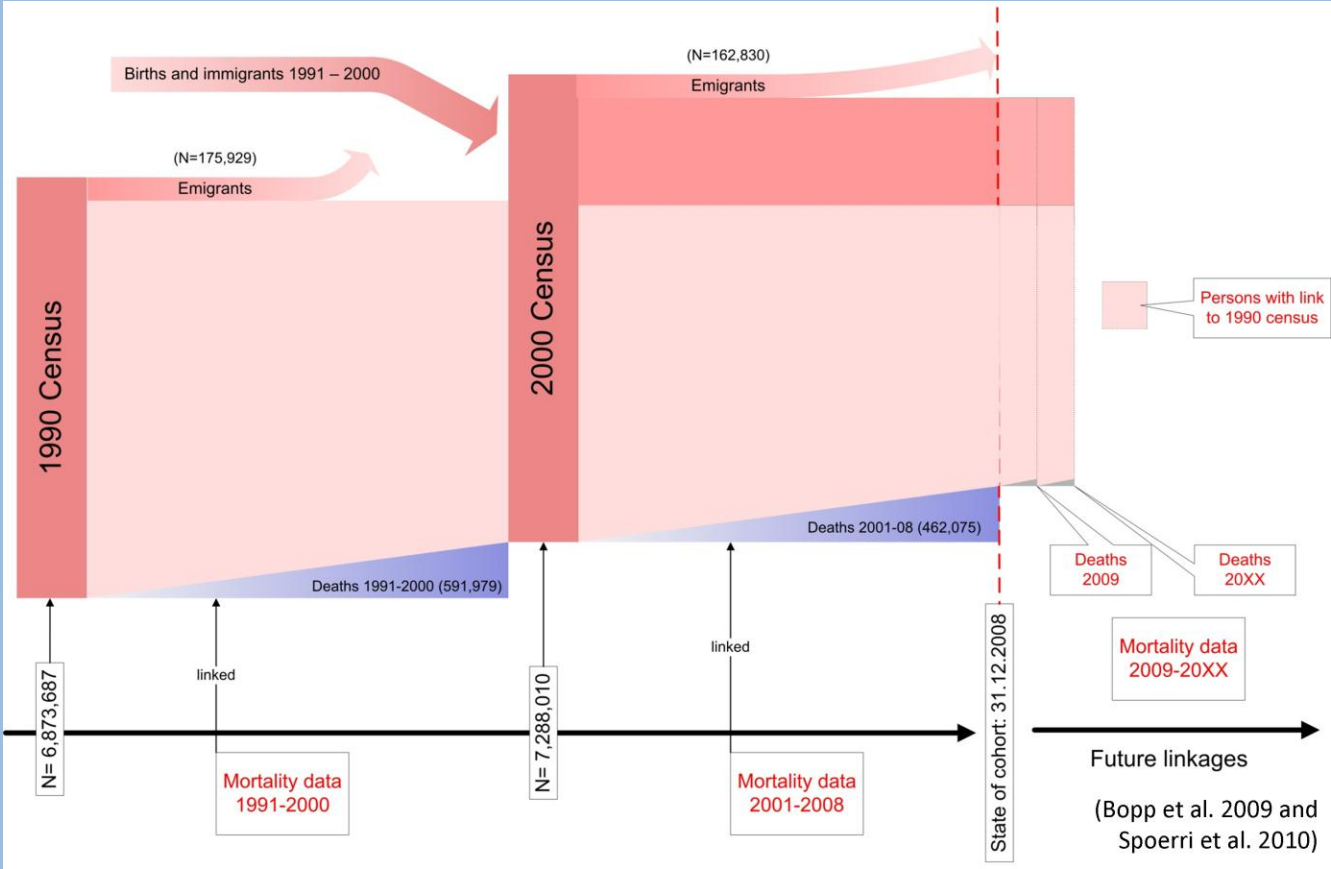
# Homicide–suicide

- > Homicide(s) followed by suicide of perpetrator
- > Rare but tragic events
- > Incidence of 0.2 – 0.5 per 100 000
- > ‘Extended suicide’ / ‘dyadic death’
- > Mostly male perpetrators
- > Occur often in intimate relationships or in families
- > Common use of firearms

## Aims of the study

- > Identify HS events within Swiss households
- > Extend forensic and criminological approaches with population-based study
- > Examine risk factors of dying in HS events as a perpetrator or a victim

# Swiss National Cohort

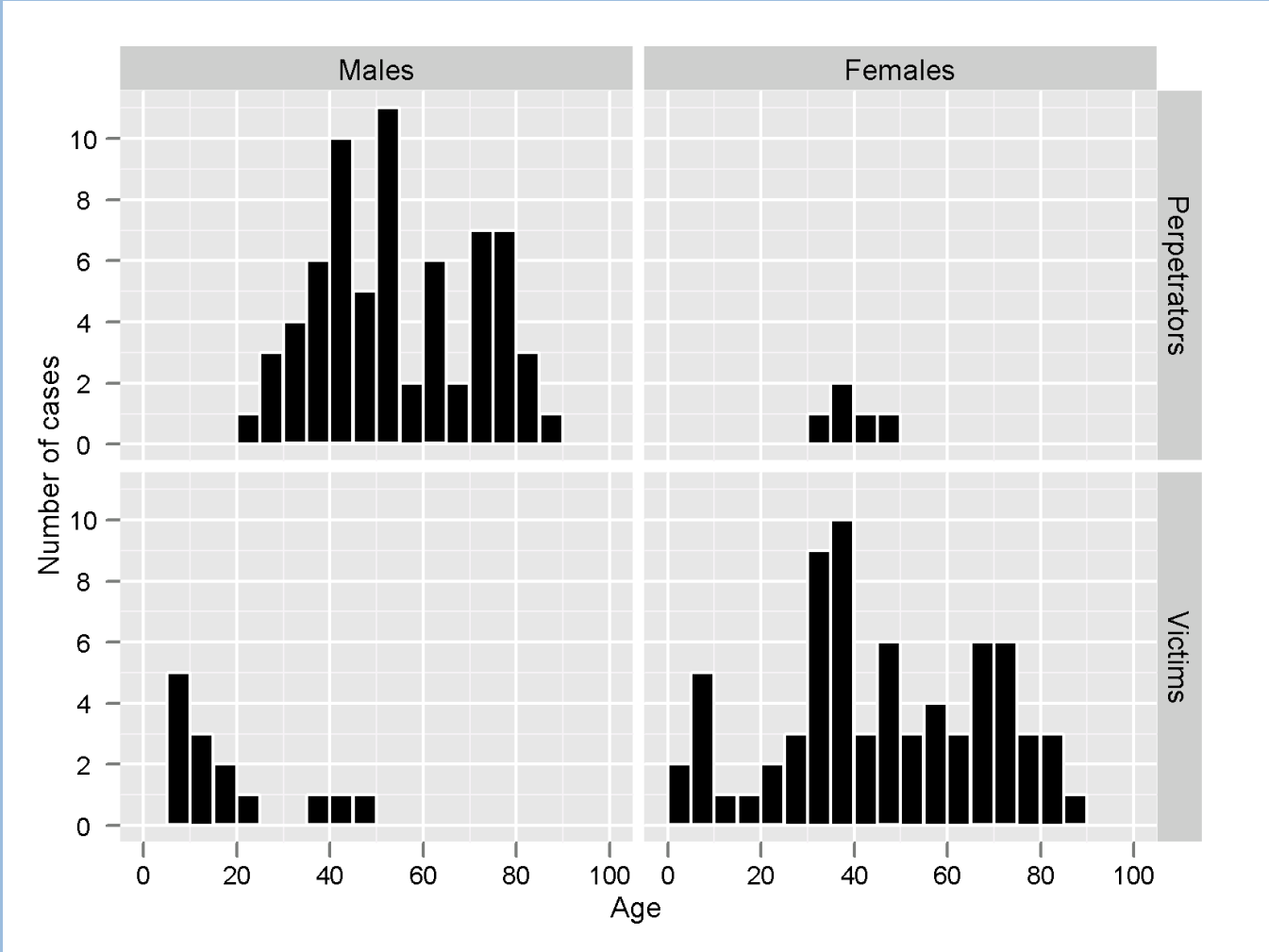


- 24,925 suicides
- 1,264 homicides
- 6.8 million individuals
- 2.5 million households

# Identification of events

- > Search through generation of potential clusters of deaths from mortality records
  
- > Conditions:
  - **Two or more** violent deaths (homicide(s) AND violent suicide)
  - Events occurred max **14 days** apart
  - **Same household** at Census 1990 or 2000
  
- > **158** deaths in **73** events

# Age and gender distribution





# Modelling of risk

- > 68 adult male perpetrators
  - population of 2.6 million men
  - 35.9 million person-years of follow-up
- > 62 adult female victims
  - population of 2.5 million women
  - 35.1 million person-years of follow-up
- > Survival analysis through age adjusted Cox Proportional-Hazards regression

# Risk factors

- > Individual level
  - Age, marital status, nationality, residence status, religion, education, occupation
- > Household level
  - No. of adults, no. of children, no. of persons per room
- > Area level
  - Language region, urbanicity

# Risk factors - perpetrators

| Characteristic |       | HR   | 95% CI        | <i>p</i> |
|----------------|-------|------|---------------|----------|
| <b>Age</b>     | 20-29 | 0.50 | (0.16 - 1.60) | 0.03     |
|                | 30-39 | 1.00 | --            |          |
|                | 40-49 | 1.37 | (0.62 - 3.06) |          |
|                | 50-59 | 1.25 | (0.55 - 2.86) |          |
|                | 60-69 | 1.09 | (0.43 - 2.77) |          |
|                | 70-79 | 2.87 | (1.27 - 6.46) |          |
|                | 80+   | 2.26 | (0.71 - 7.22) |          |

# Risk factors - perpetrators

| Characteristic          |                            | HR   | 95% CI        | <i>p</i> |
|-------------------------|----------------------------|------|---------------|----------|
| <b>Marital status</b>   | Single                     | 0.43 | (0.10 - 1.88) | 0.02     |
|                         | Married                    | 1.00 | --            |          |
|                         | Widowed                    | --   | --            |          |
|                         | Divorced                   | 3.64 | (1.56 - 8.49) |          |
| <b>Residence status</b> | Swiss                      | 1.00 | --            | 0.03     |
|                         | Permanent residence permit | 0.78 | (0.35 - 1.73) |          |
|                         | Annual / seasonal permit   | 3.95 | (1.52 - 10.2) |          |

# Risk factors - perpetrators

| Characteristic               |        | HR   | 95% CI        | <i>p</i> |
|------------------------------|--------|------|---------------|----------|
| <b><i>No. of persons</i></b> | <1     | 1.00 | --            | 0.01     |
| <b><i>per room</i></b>       | 1 - <2 | 2.00 | (1.17 - 3.43) |          |
|                              | >=2    | 4.85 | (1.72 - 13.6) |          |

| Characteristic         |                          | HR   | 95% CI        | <i>p</i> |
|------------------------|--------------------------|------|---------------|----------|
| <b><i>Religion</i></b> | Protestants              | 0.99 | (0.56 - 1.74) | 0.12     |
|                        | Catholics                | 1.00 | --            |          |
|                        | No religious affiliation | 2.23 | (1.14 - 4.36) |          |
|                        | Other/ unknown           | 1.40 | (0.57 - 3.43) |          |

# Risk factors

- > No association with
  - Nationality, religion, education, occupation
  - No. of adults, no. of children in household
  - Language region, urbanization
- > Similar pattern of risk among adult female victims

# Summary

- > First nation wide cohort study of HS
- > High Swiss HS rates despite low homicide rates
- > Predominant role of firearms
- > Living conditions associated with psychological stress and intimate partner strain contribute to the risk

**Thank you!**

Questions?