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Centre for Occupational
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Workers' compensation claims for Occupational Contact Dermatitis: 20 years of data from Victoria, Australia

**T Keegel, O Black, R Stuckey, E
MacFarlane, R Nixon, M Sim**



Background

- **Occupational contact dermatitis- Priority occupational disease: Safe Work Australia**
- **Irritant contact dermatitis**
Nurses handwashing- soap and water
- **Allergic contact dermatitis**
Hairdressers hair perming solutions
Floor finishers- epoxy resins

Background

- **Certain occupational groups known to be of high risk for occupational contact dermatitis¹**
- **Differences between diagnosed disease patterns and workers' compensation claims^{2,3}**

1. Diepgen, T. Coenraads, P.J. The epidemiology of occupational contact dermatitis *Int Arch Occup Environ Health* (1999) 72: 496-506

2. Keegel T, Cahill J, Noonan A, Dharmage S, Saunders H, Frowen K, Nixon R. Incidence and prevalence rates for occupational contact dermatitis in an Australian suburban area. *Contact Dermatitis* 52:254-259 (2005)

3. Lyons G, Keegel T, Palmer A, Cahill J, Nixon R, Occupational Dermatitis in Hairdressers: Do they claim Workers' Compensation? *Contact Dermatitis* 68 (3) 163-168 (2013)

Study objective

- To characterise patterns of occupational contact dermatitis workers' compensation claims data



Where is Victoria?

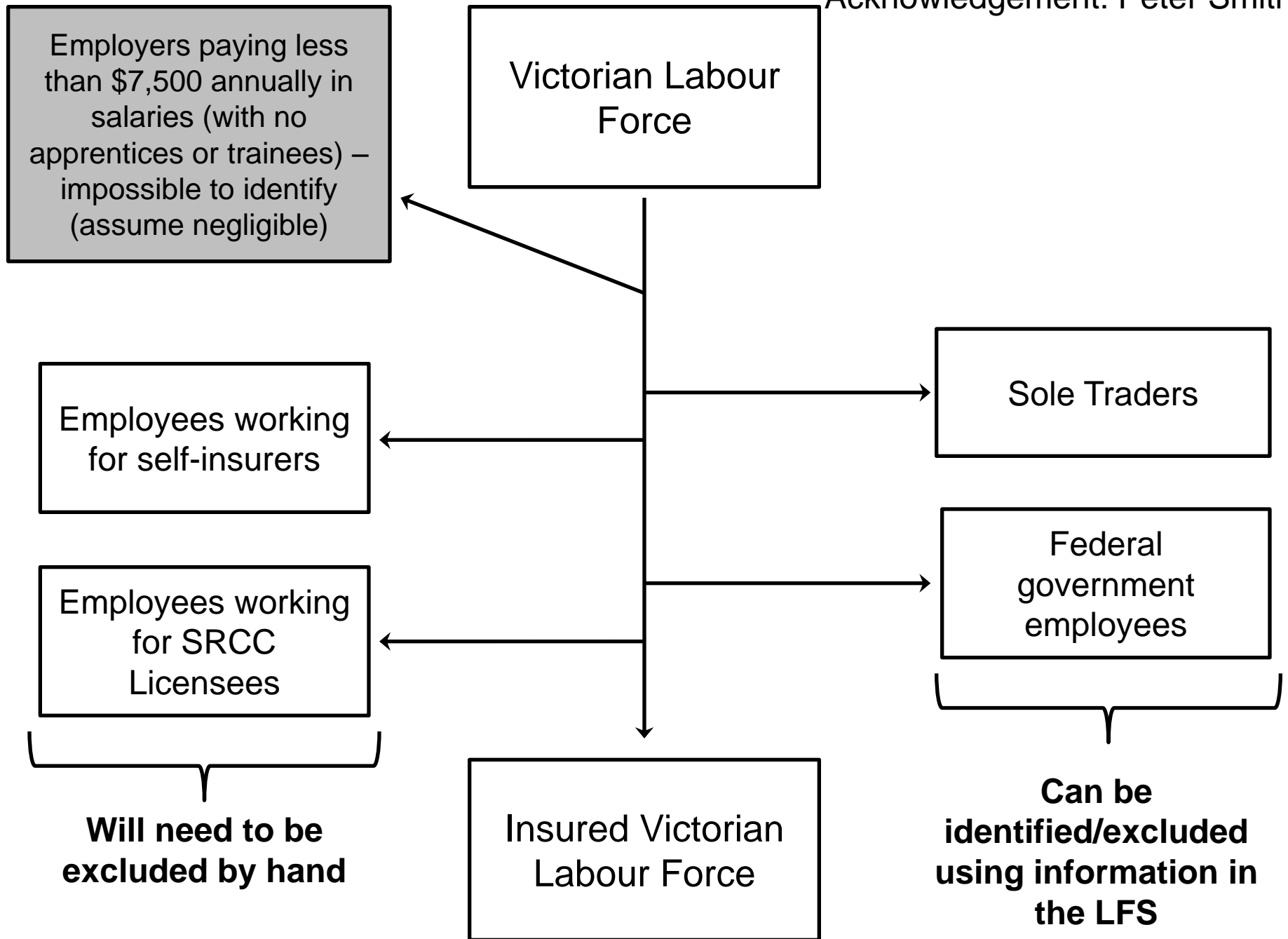
- Australian population 23 mil
- Victorian population 6 mil



Denominators

- **Victorian working pop- 4 mil⁴**
- **Specific ‘high risk’ occupations**
- **How do we appropriately define the ‘population at risk’ ?**

4. Australian Bureau of Statistics, Labour Force data, ABS 2012 Canberra



Methods: Workers' compensation data

Victorian workers' compensation data from Jan 1996- Dec 2015

Filtered by:

- Contact Dermatitis (codes 410 & 742)**
- Other and unspecified dermatitis (codes 420 & 742)**

Results: Workers' compensation claims

- **Between January 1996-December 2015 there were 3,348 accepted Workers' Compensation claims for OCD**



Results: Workers' compensation claims

Overall rate for initial workers' compensation claims:

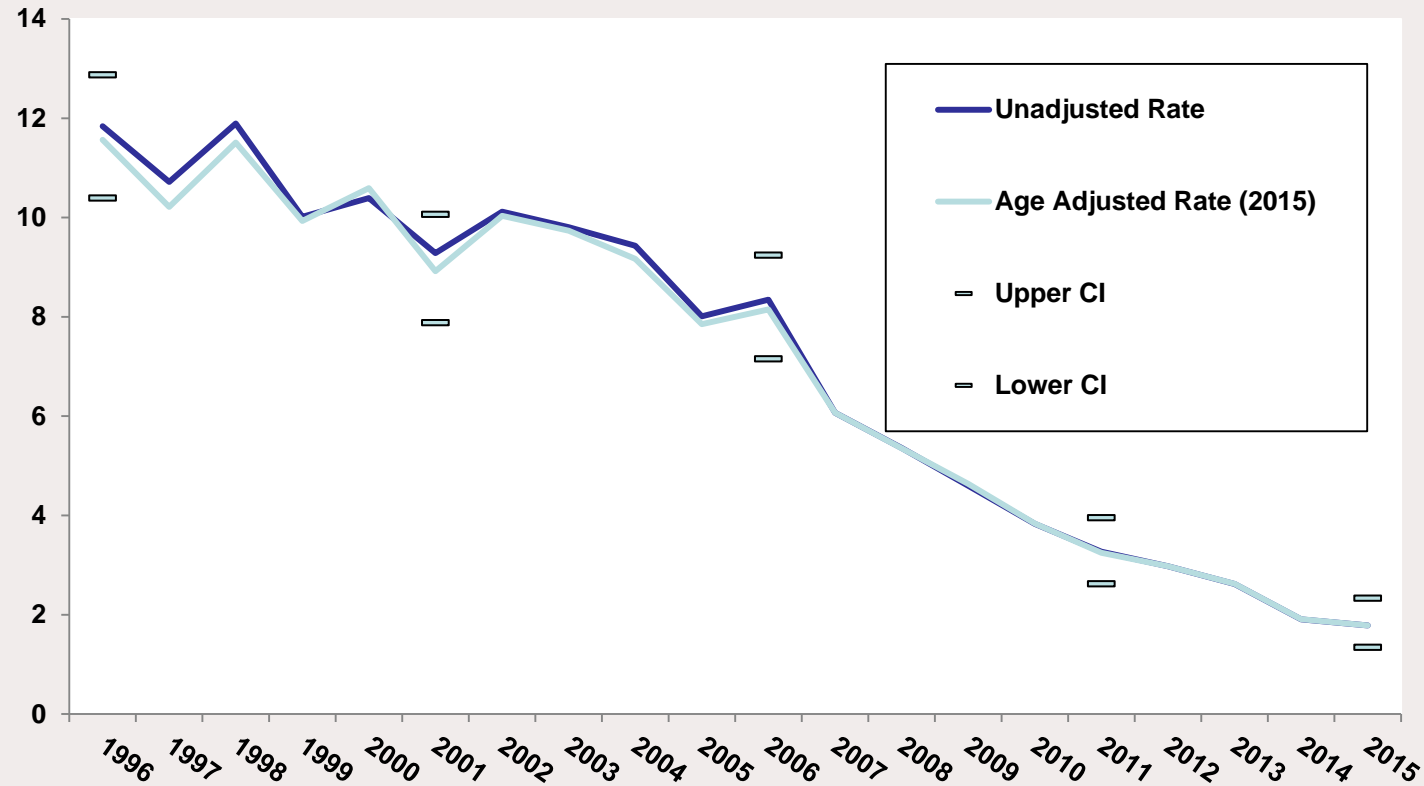
- **6.7 (95% CI:6.49-6.95) per 100,000 person-years (labour force data)**

Yearly rates for workers' compensation claims:

- **Fivefold plus reduction in claims from 11.84 (95% CI:10.39-12.87) in 1996 to 1.78 (95% CI:1.34-2.33) in 2015**

Results: Workers' compensation claims

Incidence Rate of Contact Dermatitis: 1996-2015

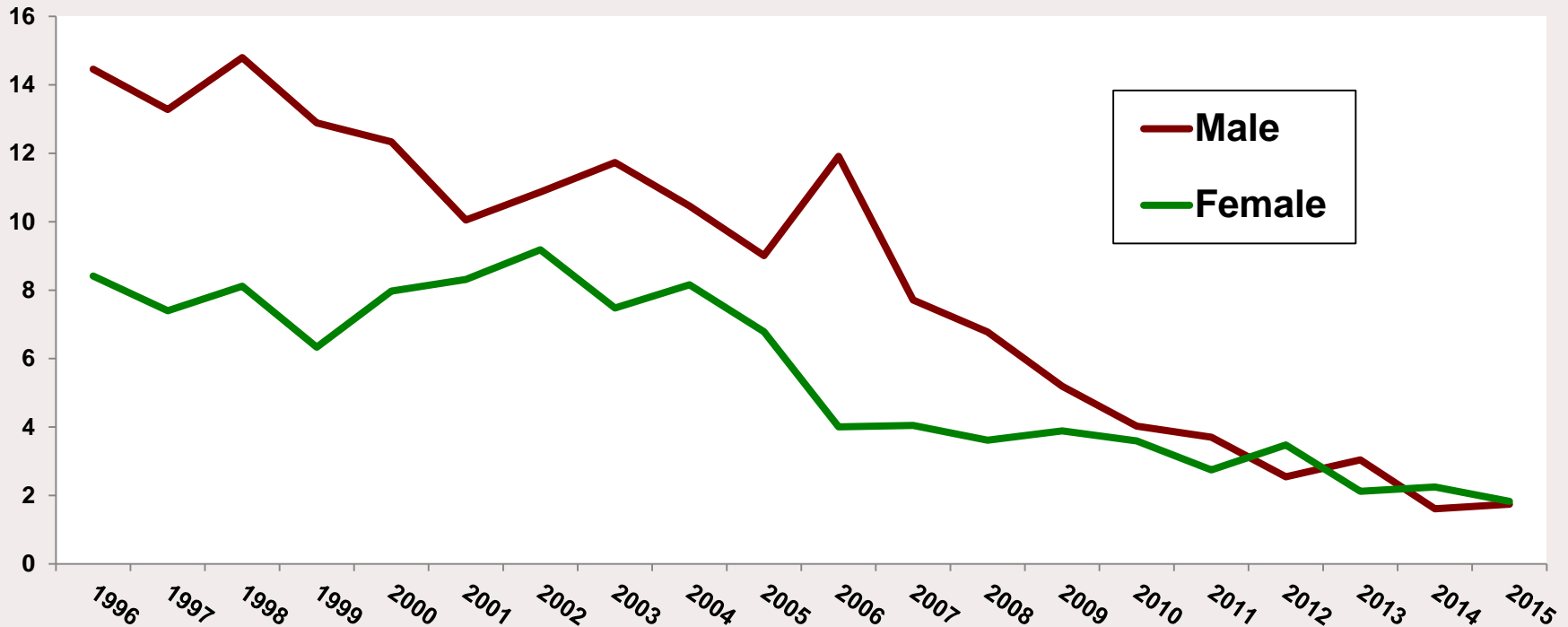


Results: Workers' compensation claims

- Males had a higher overall claims rate 7.97 (95%CI: 7.64-8.32) compared to females 5.18 (95%CI: 4.89-5.49)
- This difference has decreased from 14.46 (95%CI:12.38-16.80) in 1996 to 1.74 (95%CI:1.3-2.7) in 2015 for males compared to 8.41 (95%CI:6.63-10.53) in 1996 to 1.83 (95%CI:1.18-2.70) in 2015 for females.

Results: Workers' compensation claims

Incidence of Contact Dermatitis by Sex: 1996-2015

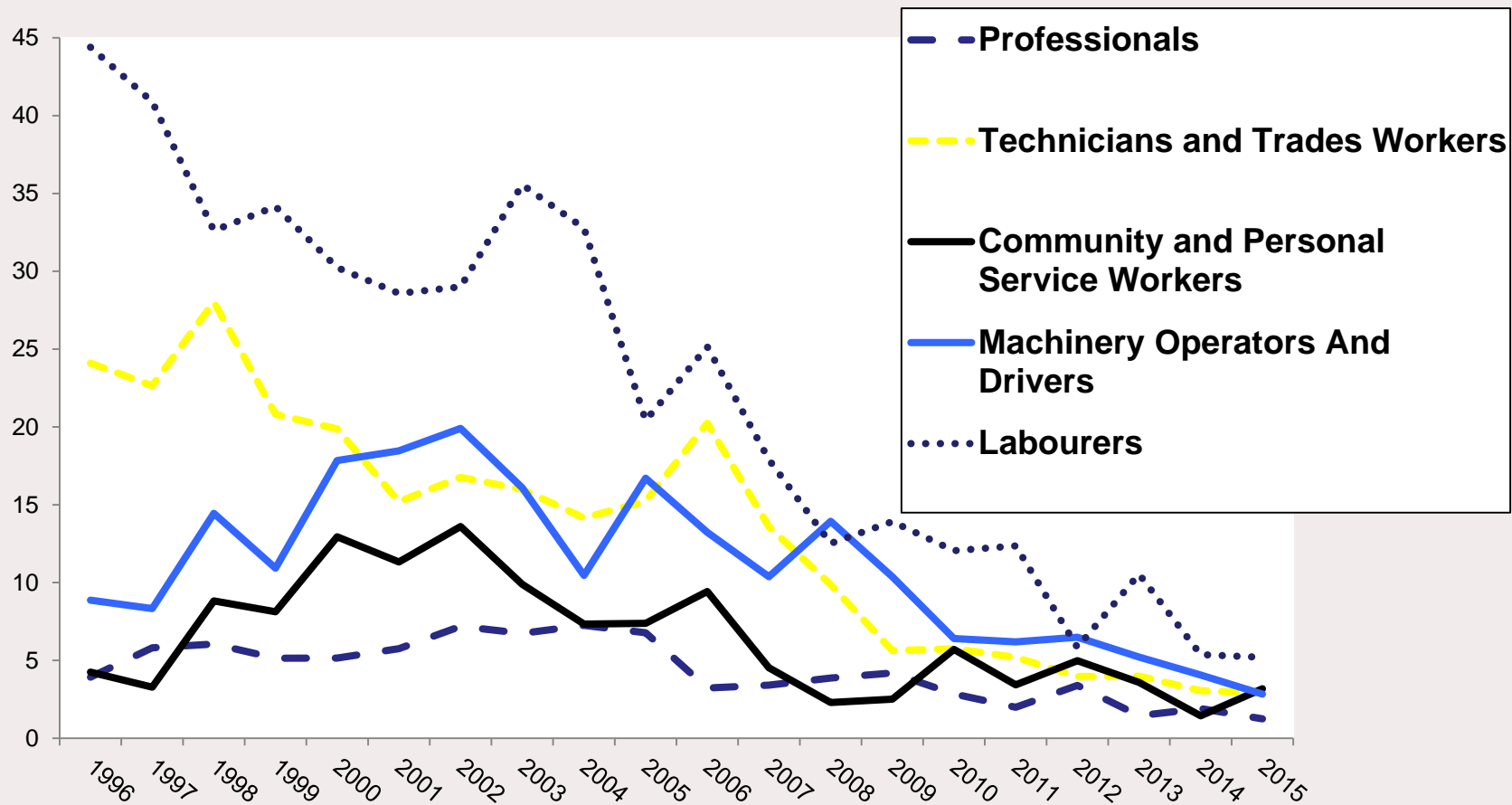


Results: Workers' compensation claims

- **Although there was some variation between occupational groups, there was an overall decline across all high-risk occupational groups.**
- **This was most consistent amongst labourers and technicians and trades workers (proxy for manufacturing?)**

Results: Workers' compensation claims

Incidence Rate of Contact Dermatitis by Major High Risk Occupational Group (ANZSCO):1996-2015



Results: Workers' compensation claims

Range of different substances nominated as agents of disease, some claims more than one agent.

These included:

- **Chemical products, detergents, plastic materials and synthetic resins; oils and fats; vegetation; paints and varnishes; clothing and footwear; food and beverages; plant treatment chemicals; chlorine; cement, lime and concrete (wet and dry); chromium and chromium compounds; and abrasive powders.**

Results: Workers' compensation claims

Site of dermatitis:

- Upper limbs (72.4%)
- Head/face (9.5%)
- Multiple locations (9.3%)
- Lower limbs (4.8%)
- Trunk (2.7%)
- Neck (1.1%)

Little difference by season, highest in the winter months, followed by spring, autumn and summer

Strengths and limitations

- **Comprehensive data 20 years for claims**
- **Use of administrative data**
- **Under reporting**



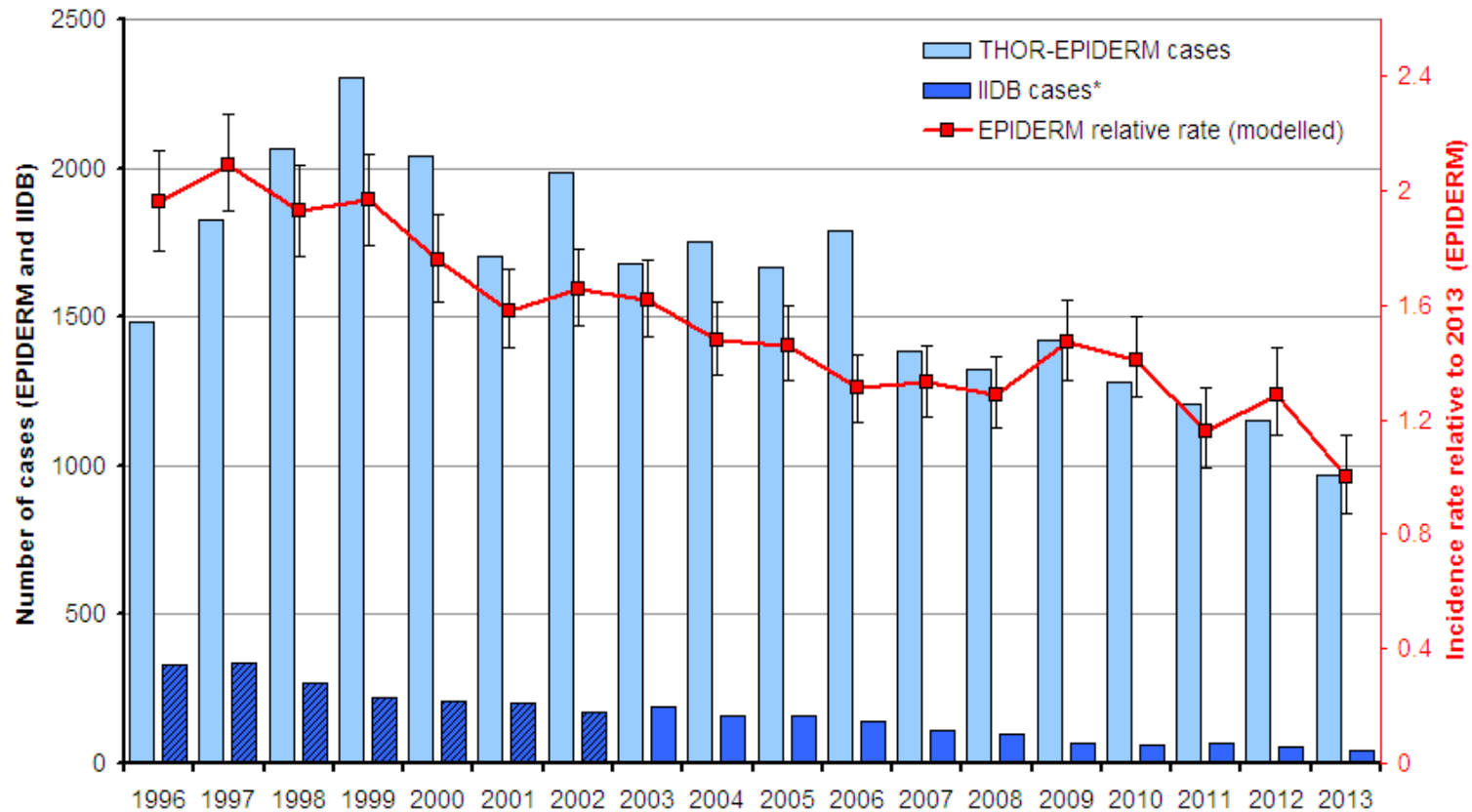
Discussion

- **Other jurisdictions have also reported a decline in reported rates for occupational contact dermatitis over this time frame**
- **Mix of jurisdictions, data sources (claims data, physician reporting schemes: EPIDERM UK).^{6,7}**

6. Dickel, H., et al., *Impact of preventive strategies on trend of occupational skin disease in hairdressers: population based register study*. BMJ, 2002. **324**(7351): p. 1422-3.

7. Health and Safety Executive UK: Work-related skin disease in Great Britain: 2014

Occupational contact dermatitis in Great Britain

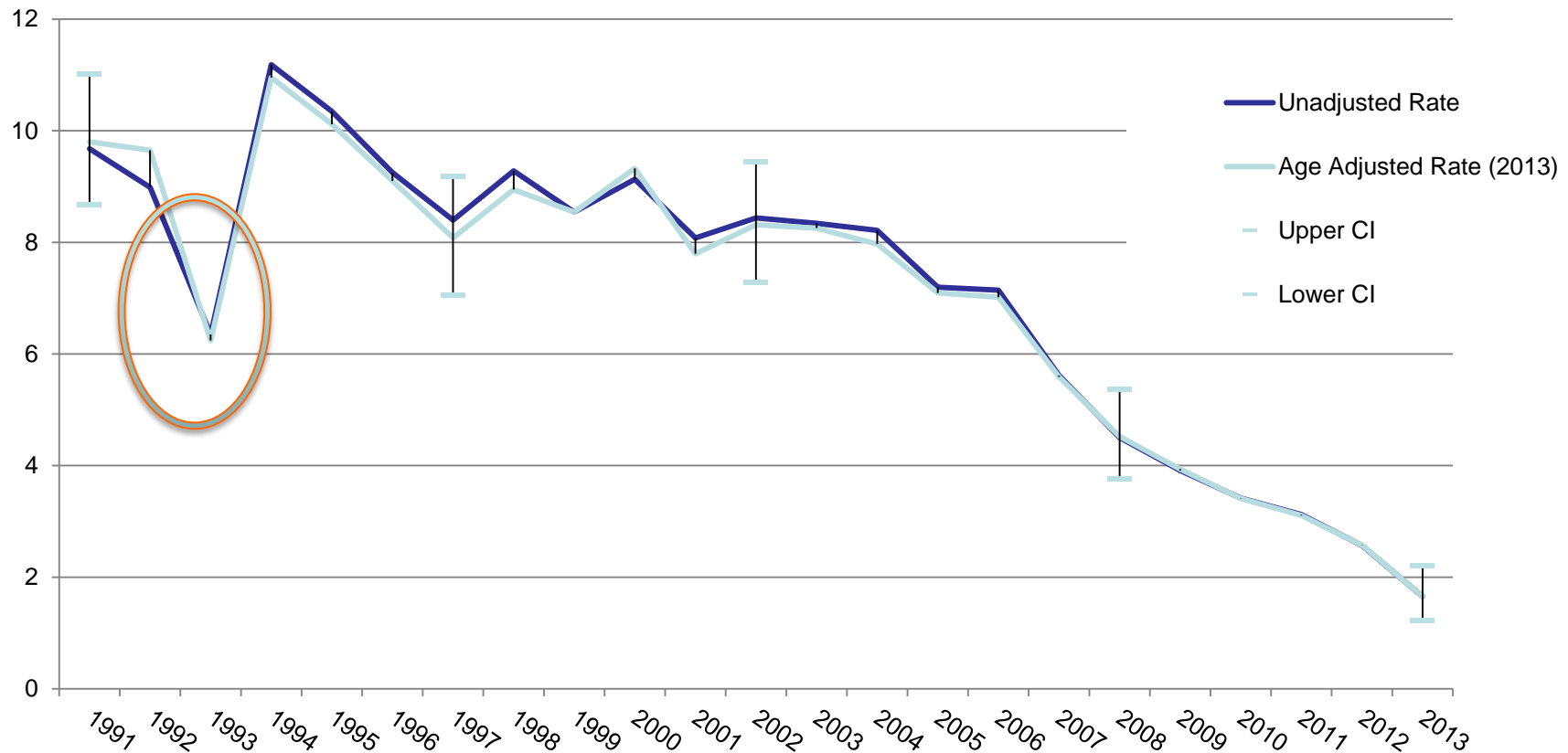


*IIDB figures for years 1996 to 2002 (diagonal shaded bars) are for claims assessed between 1 October of the previous year and 30 September of each year

Discussion: Future research

- **Issues with administrative data, dip in claims in 1992 caused by a legislative change**

Incidence Rate of Contact Dermatitis: 1991-2013



Discussion/ future research

- **Issues with administrative data, dip in claims in 1992 caused by a legislative change**
- **Other (unknown) factors influencing the data?**
- **Has there been a corresponding decline in other jurisdictions?**
- **Need for vigilance, changing exposures^{8,9}**

8. Stocks, S.J., et al., *The impact of national-level interventions to improve hygiene on the incidence of irritant contact dermatitis in healthcare workers: changes in incidence from 1996 to 2012 and interrupted times series analysis*. Br J Dermatol, 2015. **173**(1): p. 165-71.

9. Cahill, J.L., R.W. Toholka, and R.L. Nixon, *Methylisothiazolinone in baby wipes: a rising star among causes of contact dermatitis*. Med J Aust, 2014. **200**(4): p. 208

Discussion/ Future research

- **Sole reliance on administrative dataset for the purpose of OCD disease surveillance is inadequate**
- **To provide a sufficient evidence base for policy and practice intervention, diagnosed disease data or other sources of information (eg clinic data) are an essential complement to workers' compensation claims statistics**

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