Background

Occupational contact dermatitis (OCD) is a skin disease which most often affects the hands.

In Australia skin disease was the second most common work-related problem presenting to GPs\textsuperscript{1}

\textsuperscript{1}Hendrie and Driscoll 2003
Background

There are two main types of OCD:
1. Irritant contact dermatitis (ICD)
2. Allergic contact dermatitis (ACD)
Irritant Contact Dermatitis

ICD is usually caused by irritants such as detergents, caustic substances and water
Allergic Contact Dermatitis

ACD develops when an individual becomes sensitised to a specific chemical and develops a type IV (delayed reaction).

Common occupational sensitisers include PPD in hair dyes (for hairdressers) or epoxy resins (for boat builders & floor finishers).
Allergic Contact Dermatitis

ACD is usually diagnosed through a process which includes patch testing.
Priority Disease

OCD has consistently been nominated by Safe Work Australia as a ‘priority work-related disease’
Priority Disease

Workers may require extended time off work and changes in workplace practices

Some workers may need to change their jobs

Ongoing financial burden for treatment and preventative items
WorkSafe/TAC funded project

WorkSafe/TAC through ISCRR funded a project through the development grants scheme to consider aspects of exposure, diagnosed disease and workers’ compensation claims for OCD
Project summary

The project described:

1. Wet work exposure
2. Diagnosed OCD
3. Successful workers’ compensation claims
Occupational contact dermatitis: wet work exposure and disease pyramid.
Study question

What are the patterns of exposure to wet work, occupational contact dermatitis, and accepted workers’ compensation claims amongst Victorian workers?
Methods

- The first dataset has information about self-reported Australian wet work exposure data
- The second dataset consists of de-identified diagnosed disease data from a Victorian dermatology clinic
- The final dataset consists of de-identified Victorian Workers’ Compensation claims data
Methods

- The first dataset has information about self-reported Australian wet work exposure data.
- The second dataset consists of de-identified diagnosed disease data from a Victorian dermatology clinic.
- The final dataset consists of de-identified Victorian Workers’ Compensation claims data.
- Case Study: Hairdressers.
Wet work
In 2008, Safe Work Australia conducted the National Hazard Exposure Worker Surveillance (NHEWS) study.
Wet work exposure

Two separate outcomes:
1) frequency of hand washing at work
2) time spent with hands in liquids at work
Wet work exposure

- Workers were also asked what types of liquids they were exposed to at work
- Workers could nominate more than one liquid
Results

Dermal exposure & diagnosed OCD summary

This study is one of the first to suggest differences in the profiles for:
frequency of hand washing and hands immersed in liquids
When asked to nominate the types of liquids:

- Water 64%
- Detergents, disinfectants, cleaning products
- Oils, solvents, thinners, degreasers
- Concrete/cement
- Paint
- Fuel, petrol, kerosene
- Bodily fluids
Diagnosed Disease data
Study design & sample

Occupational Contact Dermatitis and Skin and Cancer Foundation clinics
Database for data from all clinics
- Jan 1993 - Dec 2010
- all patients assessed by consultant dermatologist
- diagnosis included patch-testing
Results

- 1494 patients with occupationally-related contact dermatitis

- Similar number by gender
  Males (52%) Females (48%)

- Younger age groups
  49% under 35 yr olds
  22% 35-44 yr olds
Compensation
Research Database
Study design & sample

Victorian workers’ compensation data from Jan 1985- Dec 2009

- filtered by “Afflication_Nature_CD”
- Contact Dermatitis (codes 410 & 742)
- Other and unspecified dermatitis (codes 420 & 742)
Results

- 5,189 claims, from 4,773 workers
- Includes 416 repeat claims

<table>
<thead>
<tr>
<th>Number of Claims</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two claims</td>
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<td>Three claims</td>
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<td>Four claims</td>
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<td>Five claims</td>
<td>7</td>
</tr>
<tr>
<td>Six claims</td>
<td>1</td>
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</tbody>
</table>
Results

- Cost of all claims $26,724,383
- Mean $5,150 (SD $30,575)
- Total initial claims $23,580,851
  - Mean: $4,940 (SD $30,575)
- Total repeat claims: $3,143,532
  - Mean: $7,556 (SD $28,334)
Results

• Days away from work, all claims: 213,772
• Mean all claims: 41 (SD 189)
• Mean initial claims: 40 (SD 189)
• Mean repeat claims: 51 (SD 182)
Results

- More males than females (67% male)
- Younger age groups (51% under 35)
- Occupational skill level
  - Labourers and related 38%
  - Trades and related 30%
  - Professionals 10%
Results

- Rate for initial claims: Approx 9.4 per 100,000 part & full time employed Victorians

Calculated using midpoint method\(^2\)
Denominator from 1997 ABS Labour Force Survey\(^3\)


Comparisons
Diagnosed disease data & CRD
### Demographic variables: Diagnosed disease data & CRD

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>Diagnosed disease data</th>
<th>Workers’ compensation data</th>
<th>p value*</th>
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</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>717 (48)</td>
<td>1,482 (33)</td>
<td>p&lt;0.001</td>
</tr>
<tr>
<td>Males</td>
<td>777 (52)</td>
<td>3,056 (67)</td>
<td>p&lt;0.001</td>
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<tr>
<td><strong>Age group</strong></td>
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<tr>
<td>15-24</td>
<td>328 (22)</td>
<td>1,172 (26)</td>
<td>p&lt;0.005</td>
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<tr>
<td>25-34</td>
<td>402 (27)</td>
<td>1,169 (26)</td>
<td>p=0.318</td>
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<tr>
<td>35-44</td>
<td>332 (22)</td>
<td>953 (21)</td>
<td>p=0.2681</td>
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<td>45-54</td>
<td>269 (18)</td>
<td>825 (18)</td>
<td>p=0.9548</td>
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<tr>
<td>55+</td>
<td>154 (11)</td>
<td>419 (9)</td>
<td>p=0.1948</td>
</tr>
</tbody>
</table>

*two sample test of proportions
Case study: Hairdressers
Case Study: Hairdressers

For the period Jan 1993-December 2009

- Diagnosed disease data: 156 Hairdressers
- CRD: 46 Hairdressers (no repeat claims)

- Total initial claims $427,080
- Mean: $4,146
  Total days away from work: 2648
- Mean 58 days
## Case Study: Hairdressers Diagnosed disease data and CRD

<table>
<thead>
<tr>
<th></th>
<th>Diagnosed disease data</th>
<th>Workers’ compensation data</th>
<th>p value*</th>
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<td><strong>Gender</strong></td>
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<tr>
<td>Females</td>
<td>150 (96)</td>
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<tr>
<td>Males</td>
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<td>4 (9)</td>
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<tr>
<td><strong>Age group</strong></td>
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<tr>
<td>15-24</td>
<td>108 (69)</td>
<td>41 (89)</td>
<td>p&lt;0.01</td>
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<td>12 (8)</td>
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<td>2 (1)</td>
<td>--</td>
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<td><strong>Apprentice/other status</strong></td>
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<tr>
<td>Apprentice</td>
<td>70 (45)</td>
<td>14 (30)</td>
<td>p=0.07</td>
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<tr>
<td>Hairdresser/other</td>
<td>86 (55)</td>
<td>32 (70)</td>
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</tbody>
</table>

*two sample test of proportions
Case Study: Hairdressers
Diagnosed disease data vs CRD, by year 1993-2009
Discussion
Diagnosed disease vs CRD

• **Gender:**
  - similar for diagnosed disease
    48% female vs 52% males
  - different for WC claims
    33% female vs 67% males

• **Age:**
  - different for the youngest age group
  - similar for other age groups
Initial vs repeat claims

- Initial claims mean claims costs lower than repeat claims ($4,940 vs $7,556)
- Initial claims mean days away from work lower than repeat claims (40 days vs 51 days)
High risk occupations

• Considerable variations by specific occupations (hairdressing)

• Other high risk occupations nurses, food-handlers, plumbers
Implications for WorkSafe

• Policies need to be implemented to protect workers from developing OCD

• If a worker develops OCD, workplace exposure and return to work needs to be carefully managed or a worker’s skin disease will reoccur
Implications for WorkSafe

• Targeted policies and education packages are required to guide intervention on workplace exposure
Policy implications

- Success of the German policy
  *Technical standards* and
  *Technical Rules 530 Hairdressing*


Annual incidence (± 95% confidence intervals) of hairdressers with a stated occupational skin disease 1990-1999. From BMJ 2002; 324:1422-1423 (Dickel et al. 2002)
Acknowledgements & publications details

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