Days of death: Injury mortality for NZ soldiers in WW1

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Department of Public Health seminar
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Aim

• To explore aspects of injury-related mortality amongst NZ military forces for WW1
Fatal injuries: Background

• Fatal war injury is one of the most effective and measurable indicators of the effect of war.

• Most war injury epidemiology is about particular injuries, rather than deaths.

Advanced dressing station, Messines
Alexander Turnbull Library Reference: 1/2-012773-G
Methods (for detail see Wilson et al. *NZMJ* Nov 1, 2013)

- Mortality data from Roll of Honour electronic database for NZ military personnel, for July 1914 – November 1918:
  - Extracted date, cause, place, ethnicity, rank, unit
- Cenotaph database: Numbers of NZ personnel in the Northern Hemisphere each year were used to calculate annual mortality risk
- Coded for Māori, Pacific, European/other: sample of 1000
Results: Base population at risk

- 100,444 embarked for service overseas
- Average age on-board 27 years

Soldiers in NZ 1916
Results: Total injury deaths 1914-18

- **15%** of those who served overseas died of injury

- **14,946** deaths from injury: 90% of all NZ service deaths to 11 November 1918
  - 10,870 killed in action
  - 3903 died of wounds
  - 109 by ‘accident’
  - 57 drowned
Some context for the deaths

The injury deaths were:

• **1.5%** of the NZ population in the 1916 census

• Total NZ war deaths were **5%** of the male population aged 15-49 (compared to 11% for Scotland, 14% for France, **22%** for Serbia)

Results: Injury deaths by ethnicity

- 15% of European/other died from injury: 14762 deaths
- 11% of Māori: 179 deaths (plus another 11% by disease)
- 1% of Pacific: 10 deaths (plus another 7% by disease)

*Shell-Shattered Area of Chateau Wood, Flanders*
Frank Hurley, 1917
Results: Annual risk of injury death

- Highest annual risk of injury death in 1915 (13%)
Results: Annual deaths

- 1914: Low number of deaths
- 1915: Moderate increase in deaths
- 1916: Further increase in deaths
- 1917: Significant spike in deaths
- 1918: Slight decrease compared to 1917
Results: Annual cause of death
Peak proportion who Died of Wounds [DOW] in 1918 at 29%
Results: Monthly pattern of injury death

Months or groups of months with over 1000 deaths (18 months with over 200 deaths):

1. Gallipoli allied offensive (August 1915)
2. Somme offensive (Flers–Courcelette - 607 dead on 15 September, 1916)
3. Battle of Messines (June 1917)
4. Battle of Passchendaele (October 1917)
5,6 March-April 1918 (Arras, Ancre) & August-October 1918 (Albert, Bapaume, Havrincourt, Cambrai)
Monthly deaths 1916-18: Wgtn College Old Boys
George Edmund Butler, *Fight at quarry outside Bapaume, August 1918*
**Location of deaths**

From cemeteries/ Memorials

<table>
<thead>
<tr>
<th>Location</th>
<th>Number</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>France</td>
<td>7207</td>
<td>48%</td>
</tr>
<tr>
<td>Belgium</td>
<td>4588</td>
<td>31%</td>
</tr>
<tr>
<td>Ottoman Empire (Gallipoli &amp; Palestine)</td>
<td>2495</td>
<td>17%</td>
</tr>
<tr>
<td>Egypt</td>
<td>278</td>
<td>2%</td>
</tr>
<tr>
<td>UK</td>
<td>193</td>
<td>1%</td>
</tr>
</tbody>
</table>
Somme 1916

- Note scale and distance between 15 Sept - 19 Nov front lines

- Note NZ 1918 battles: Ancre, Albert, Bapaume
NZ daily deaths: Somme 1916

Day of September 1916

Number of deaths

Died of wounds
KIA
Mametz, Western Front Frank Crozier
Rear area of Anzac Corps, winter of 1916-17, towards the end of the Battle of the Somme
Messines
Passchendaele
June, October, December 1917

Note scale
NZ daily deaths, October 1917

October 4th: Battle of Gravenstafel Spur; October 12th: Battle of Passchendaele
George Edmund Butler *The Crucifix, Polygon Wood*
Discussion

NZ WWI

• Higher number of injury deaths than for:
  – all causes in WW2 (~11,600 deaths)
  – NZ 1918 pandemic flu (~8600 deaths)

• Much greater injury than disease death toll: (diseases deaths 1297- 8% of all causes), compared to US Civil War, or South African War
Study strengths/limitations

- Conservative injury death numbers
- Limiting the analysis to the end of the war has excluded the 1604 further service deaths to December 1923, some of which may have been from war injuries
- Lack of age, rank denominators
- Lack of rain, mud data
Eric Kennington: *Gassed and Wounded* 1918
Prevention of war?

Can NZ war deaths be reduced or NZ wars reduced?

• *If* there is war
  – who runs it
  – who fights
  – who dies

• ‘Solutions’
  – civilianisation
  – remote control

http://digital.nls.uk/74549736
As of 2 August 2013, there had been 3,274 ‘coalition’ deaths in Afghanistan. 

http://icasualties.org/oef/
Estimated minimum civilian war deaths in Afghanistan 2001-2012

Minimum 22,700 civilian deaths during 2001-2012

Marc Herold’s http://pubpages.unh.edu/~mwherold/AfghanDailyCount.pdf
http://www.hrw.org/reports/2008/09/08/troops-contact-0 and UN Assistance Mission Afghanistan (UNAMA)
Civilian and Coalition war deaths in Afghanistan: 2001-2012
Remote control war
Drone strike casualties
in Pakistan
2004-2012

http://www.thebureauinvestigates.com/namingthedead/?lang=en
Further information: contact george.thomson@otago.ac.nz