Mortality Statistics
England & Wales
Claudia Wells – Office for National Statistics
Mortality Statistics

• Overview of death registration

• Weekly and Monthly deaths

• Healthcare associated infections
  – MRSA
  – CDIFF

• Excess Winter Mortality
Registering Vital events

- Registration largely the same since 1837
- Piecemeal legislative development
- Registered by the informant in person at local register office in area where the event occurred
- Legal requirement to register
- Deaths must be registered within 5 days unless referred to the coroner
- Most information provided by informant
- Registrar enters the data via an online system
Information Flows: deaths

- Medical Certificate of Cause of Death
- Local Register Office
- Informant
- ONS
- Data preparation
- Primary tabulations
- Secondary analysis
Publication Timetable

Weekly deaths: Provisional estimates of deaths registered in a week (ending on a Friday) are published at the end of the following week.

Monthly deaths: Provisional estimates of deaths registered in a month are published at the end of the following month.

Annual registration figures in May following data year.

Annual occurrence figures in October following data year.
Medical certificate of cause of death (MCCD)

MCCD asks for up to 3 conditions in Part I
(a) ‘condition or disease’ leading directly to death
(b) ‘condition or disease’ leading directly to (a)
(c) ‘condition or disease’ leading directly to (b)

Part II – Other significant conditions...

Underlying Cause
(a) The disease or injury that initiated the train of events leading to death, or
(b) The circumstances of the accident or violence that produced the fatal injury
Number of conditions that contributed to the death stored on ONS systems

Up to 15 mentions on our statistical files since 2001

<table>
<thead>
<tr>
<th>Number of mentions</th>
<th>Percentage of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1+</td>
<td>100</td>
</tr>
<tr>
<td>2+</td>
<td>76</td>
</tr>
<tr>
<td>3+</td>
<td>43</td>
</tr>
<tr>
<td>4+</td>
<td>20</td>
</tr>
<tr>
<td>5+</td>
<td>9</td>
</tr>
<tr>
<td>6+</td>
<td>4</td>
</tr>
<tr>
<td>7+</td>
<td>2</td>
</tr>
<tr>
<td>8+</td>
<td>1</td>
</tr>
</tbody>
</table>
Calculation of the weekly deaths

- Death occurring in England and Wales are registered on the General Register Office’s Registration Online System
- Daily extracts of death registrations records from RON are processed in ONS’ database systems
- Provisional data on deaths registered in each week (ending on a Friday) are complied by the end of the following week
- Bank holidays could affect the number of registrations made within those weeks
Weekly death registrations: 4\textsuperscript{th} Dec - 30\textsuperscript{th} April

Total deaths, all ages

Total deaths: average of corresponding week over the previous five years

1
Monthly death registrations

• Provide provisional counts of the number of deaths registered in a calendar month, by area of usual residence in England and Wales

• Figures are presented by Government Office Region, unitary authorities, counties and districts

• Updated when the provisional quarterly figures are released

• Remain provisional until the final annual data are released
Standard reports using mentions - MSRA

• MRSA is rarely the underlying cause of death.

• No ICD codes for antibiotic resistance

• ONS stores the text of death certificates along with all the ICD coding.

• Manually search text to identify diseases when certain ICD codes are mentioned
Standard reports using mentions - MSRA

• Extract all deaths where a code specifically related to *Staphylococcus aureus* is mentioned
  – Search text to identify MRSA

• All deaths with non specific infection codes
  – Search text to identify MRSA or *S. aureus*

• Coded as having MRSA or S.aureus underlying cause if the text search identifies the infection and the underlying cause was infection related
Number of death certificates with MRSA mentioned as an underlying cause or contributing factor, England and Wales, 1993-2008
Standard reports using mentions – *C. Difficile*

- Often not the underlying cause of death

- ICD 10 code A04.7 (Enterocolitis due to *Clostridium difficile*) identifies the vast majority of deaths but a small number are not captured by this code alone

- For the non specific codes text was search to look for a mention of *C. difficile*
Number of death certificates with *C. Difficile* mentioned as an underlying cause or contributing factor, England and Wales, 2001-2008
Excess Winter Mortality

- Excess winter deaths are much higher in the UK than in many much colder countries, and in countries with larger differences between winter and summer temperatures.
- This excess has been regarded as largely avoidable for at least 50 years.
- The excess is thought to be strongly related to fuel poverty and flu incidence.
- NHS, HPA and local government organisations have targets to reduce EWD.
Measuring Excess Winter Mortality

• The current ONS standard method defines the winter period as December to March, and compares the number of deaths that occurred in this winter period with the average number of deaths occurring in the preceding August to November and the following April to July:

\[ EWM = \text{winter deaths} - \text{average non-winter deaths} \]

• This produces a number of excess winter deaths that is rounded to the nearest 10 for final data and to the nearest 100 for provisional data.
Monthly deaths and mean monthly temperature, August 2008 to July 2009
Excess winter mortality and average winter temperature, 1999/2000 to 2008/09
Thank you – mortality@ons.gov.uk

More information about out standard publications

Weekly deaths
http://www.statistics.gov.uk/statbase/Product.asp?vlnk=9684

Monthly deaths

MRSA

C.Diff

Excess Winter Mortality