Key messages:
• Published international literature suggests between four and 10 per cent of patients in acute healthcare develop a pressure ulcer; not all can be prevented, but the number and severity of pressure ulcers can be reduced by effective management.
• Over 14,000 pressure ulcer incidents are reported to the RLS each year.
• Of these, 50 per cent were acquired during NHS inpatient care, with the remainder in other settings including patient’s own homes or in care homes.
• The site of the pressure ulcer, grade and contributory factors are described in some incident reports.
• The detail and quality of most local reports of pressure ulcers needs to be improved to better inform local or national priorities for action.

Pressure ulcers are areas of damaged skin and tissue. They develop when pressure cuts off local blood supply, usually through a combination of patient factors including impaired mobility, impaired circulation, obesity, emaciation, skin integrity and care factors such as positional changes, support surfaces or skin care.

From the published literature, the incidence of pressure ulcers in acute hospital settings internationally is not clearly established, but may be in the region of four to 10 per cent. No studies on general prevalence or incidence of pressure ulcers outside acute hospitals could be located. NICE guideline 29 suggests that early detection and effective monitoring and management can reduce the risks of pressure ulcer developing. It also requires pressure ulcers of grade 2 or above on the EPUAP scale to be reported for local investigation.

Analysis
The analysis looks at incidents occurring between 1 January 2007 and 31 December 2007 that were reported to the RLS by 12 August 2008. Free text descriptions were searched with keywords and 14,704 incidents associated with pressure ulcers were found. A random sample of 250 incidents was extracted for more detailed analysis, of which nine were not pressure ulcer incidents and were excluded from further analysis.

Reporting rates by type of organisation
Figure 1 shows that primary care organisations (PCOs) with inpatient provision had the highest rate of pressure ulcer reporting (7.9 pressure ulcers per 10,000 bed days). This may reflect a more vulnerable patient group in community hospitals and reports from community nurses of patients in other settings, including care homes, developing pressure ulcers, rather than higher incidence of pressure ulcers.

Variation between types of acute trusts ranged from 3.3 to 5.5 pressure ulcers per 10,000 bed days. This may reflect different patient groups and reporting cultures and processes, as well as variation in the actual incidence of pressure ulcers. Mental health organisations had the lowest rate of pressure ulcer reporting, which was not unexpected, given their patients will usually be independently mobile.

Demographics of patients with pressure ulcers
Where age was reported (74 per cent of reports), 34 per cent of incidents were among those aged 76 - 85 years and 32 per cent among those aged over 85 years. Where gender was reported (71 per cent of reports), 57 per cent of reported incidents affected women and 43 per cent men. Older patients are known to be more vulnerable to developing pressure ulcers due to the effect of the ageing process on mobility, circulation and the skin, but data on gender needs to be interpreted with care because of differences in male and female life expectancy.

Some organisations reported pressure ulcers that had been acquired in the community and not during NHS-funded care, for example:

"Patient brought to department by paramedics. Patient has grade 3 / 4 pressure ulcer to upper thighs, both buttocks, sacrum and lumber back. Patient states she has been lying on her sofa at home for approx 6 / 52."

http://www.hesonline.org.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=537

Place of acquisition of pressure ulcers
Figure 2 shows that 41 per cent of pressure ulcers developed in the specialty/ward where they were reported. Twelve per cent developed within another hospital/specialty/ward and seven per cent developed in hospital but were reported in the community after discharge (e.g. by a district nurse). Fifteen per cent were acquired at the patient’s home, with six per cent in a residential home and no place of acquisition reported for 19 per cent.

Figure D:
Place of acquisition of pressure ulcers

<table>
<thead>
<tr>
<th>Location</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>In this specialty/ward</td>
<td></td>
</tr>
<tr>
<td>Patient’s home</td>
<td></td>
</tr>
<tr>
<td>In another hospital/specialty/ward</td>
<td></td>
</tr>
<tr>
<td>In hospital recently discharged from</td>
<td></td>
</tr>
<tr>
<td>Residential home</td>
<td></td>
</tr>
<tr>
<td>Not reported</td>
<td></td>
</tr>
</tbody>
</table>

Source: Random sample of 241 incidents from 14,704 reported pressure ulcer incidents in RLS (2007, reports received by 12 August 2008).

Grade of pressure ulcers
In 64 per cent of reports the grade of the pressure ulcer was recorded in the free text. Where reported, 13 per cent were grade 1, 47 per cent of were grade 2, 23 per cent were grade 3, and 17 per cent were grade 4. Where grade 1 – 4 (or I-IV) was indicated, it was assumed that this corresponded with the NICE guideline 29 requirement that the EPUAP scale 2 should be used for grading pressure ulcers, but this may not have always been the case.

Management of pressure ulcers and contributing factors
For 141 of the 241 random sample of pressure ulcer incidents which developed under NHS-funded care, the free text fields were reviewed to identify themes about the management of pressure ulcers. The information recorded on care problems or contributing factors was generally missing, but 25 incidents related to either a lack of equipment or a problem with equipment, for example:

“On patients discharge home he had a necrotic right heel… full thickness necrosis. No high pressure mattress had been arranged 5 days after his discharge resulting in home case not able to commence to undertake personal hygiene. I contacted appliance dept and OT informing them. I arranged nurse visits for care over bank holiday and twilight and air flo mattress & hospital bed.”

Other themes included the development of pressure ulcers during long labours if the mother had a high BMI, development of pressure ulcers from tight plaster casts and instances when the patient had refused to use the equipment provided.

A separate analysis has also highlighted the risk of pressure ulcers resulting from the inappropriate use of anti-embolism compression stockings, including their use in patients where they are contra-indicated due to arterial disease, poorly fitted stockings and failure to check skin condition under the stockings.

Location of pressure ulcers
In almost 40 per cent of pressure ulcer incidents an ulcer was located on the sacrum, in 24 per cent an ulcer was located on the heel and in another 22 per cent of incidents an ulcer was located on the buttock. Ulcers were located on the leg or foot in 13 per cent of incidents, which suggests patients with arterial disease. In about 12 per cent of incidents no body location could be identified from the text of the incident report.

Quality of reporting and learning
In many cases the free text was brief and limited to reporting the grade of the incident, for example:

“Grade 2 pressure sore observed on inside of L buttock”

“Pressure Ulcer Grade 4”

The NICE guidelines recommend that pressures ulcers of grade 2 or above are reported locally as incidents. This makes sure that information is gathered about the circumstance of the pressure ulcer and helps prevent future incidents. In many cases it appears that the process of reporting the incidents is seen as an end in itself, with no information collected on possible causes. This makes it unlikely that any local learning can take place.

Root cause analysis of pressure ulcer incidents can help to identify local priorities for action. The NPSA’s tools to support local investigations can be found at: www.npsa.nhs.uk/nrls/improvingpatientsafety/patient-safety-tools-and-guidance/rootcauseanalysis.