Comparing the risk profiles of self-harming patients who leave paper suicide notes with those who leave messages via new media.

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Introduction
Suicide notes have been indicated as a risk factor for completed suicide, as well as male gender, younger age, lack of social support, alcohol or drug misuse, pre-existing psychiatric illness, and other life stressors.

With the use of technology becoming more frequent, suicide notes need not be a physical manifestation from pen to paper, and may now be left electronically via new media services such as, chat rooms, blogs, video-sharing websites, forums, social networking websites, email and SMS.

We aimed to quantify the fraction of people who self-harm and present to Emergency Departments who also use new media to leave a note, and to compare new media note leavers with those who left paper notes, and those who left no notes. Secondary aims were to characterise these groups demographically and in terms of the suicide risk factors.

Methods
SHIELD (not an acronym) has established a database of self-harm presentations to King’s College Hospital and St Thomas’ Hospital, both in London. The database collates details specific to presentations and demographic information. There were complete data for the years 2011 and 2012, amounting to 2517 presentations across hospitals.

The Clinical Records Interactive Search (CRIS) was used to search clinical notes and correspondences of the patients who had presented with self-harm presentations across hospitals with a published registered user number equal to or greater than 100 million during 2012, as well as websites deemed influential by authors at this time, and more generic terms such as ‘Internet’.

Clinical notes and correspondences that were hits on one or more search term were screened manually and categorised according to the type of new media note present. Table 1: Categorisation of positive ‘hits’ against new media search terms.

<table>
<thead>
<tr>
<th>Type of note</th>
<th>n</th>
<th>% of total presentations</th>
</tr>
</thead>
<tbody>
<tr>
<td>New media use that is not note-leaving</td>
<td>60</td>
<td>24</td>
</tr>
<tr>
<td>Goodbye note</td>
<td>23</td>
<td>0.9</td>
</tr>
<tr>
<td>Help-seeking note</td>
<td>22</td>
<td>0.9</td>
</tr>
<tr>
<td>Note highlighting distress but not help-seeking</td>
<td>29</td>
<td>1.2</td>
</tr>
<tr>
<td>Reproachful note</td>
<td>7</td>
<td>0.3</td>
</tr>
<tr>
<td>Note is present but content is unknown</td>
<td>3</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Looking at the corrected relative risk from the logistic regression it can be noted that older age is related to a lower probability in leaving a new media note vs no-note, whilst marriage or civil partnership, and substance use is related to a higher probability in leaving a new media note vs no-note. Additionally, a higher BSIS score is linked to increased likelihood of leaving a paper note than no-note, whilst a family history of suicide is related to a lower probability of leaving a paper note than no-note. When comparing paper notes and new media notes, it is observed that the age and BSIS scores of paper note leavers are higher than new media note leavers.

Discussion
The findings of age and substance use fit in well with the suggested risk factors for repeated self-harm. This also indicates that new media note leaving is mostly a risky preserve of the younger population. It can also be inferred from the results that those who are married or in civil partnerships may have someone that they may wish to leave a note to, independent of the risks indicated by note-leaving. Additionally, those with a family history of suicide may be less likely to leave a note, either because this somehow negatively effects note-leaving or because the aetiology of the mood disturbance is different dependent on family history. Finally, the higher BSIS scores in paper note leavers may suggest that level of suicidal intent is higher in those leaving paper notes. This may indicate that new media notes are more impulsive than paper notes.

The potential loss of data at several stages of the data extraction poses problems for interpretation. Because the final sample containing only records with complete data across all variables is much smaller than the initial sample, this may have affected results significantly. Imputation was not used to manage the volume of missing data because the data set is not normally distributed, so imputation may have caused bias. Furthermore, the selection of the BSIS to quantify risk was based on its inclusion in SHIELD, however another tool might have been better suited.

Conclusions
From these findings we infer that new media use can be related to other risk factors for repeated self-harm such as younger age and substance use, however paper notes remain more risky than new media notes, as can be seen by a higher level of suicidal intent.

This research should highlight the need to explore the use of new media when conducting assessments in Emergency Departments.

Table 1: Categorisation of positive ‘hits’ against new media search terms.

Figure 1: Types of new media resource used to leave a suicide note in all the records where a linkage with CRIS was made.

Figure 2: Average Beck Suicide Intent Scale scores, and standard deviations, for each note-leaving group.