Suicide is the cause of approximately 1 million deaths worldwide each year. Notes are left by 10 to 43% of people who die by suicide and many efforts have been made to characterise the content of suicide notes. This research has generally focused on language and/or themes of suicide notes and their implications for understanding the mindset of a person just prior to his or her death. One potentially important but relatively unexplored aspect for understanding the mindset of a person just prior to his or her death by suicide is the issue of testamentary capacity at the time of death. One potentially important but relatively unexplored aspect for understanding the mindset of a person just prior to his or her death is the issue of testamentary capacity, the capacity to execute a legally valid will.6 The leaving of a will prior to death by suicide is a relatively unexplored area.

**Aims**
To determine the frequency and details of will content in suicide notes.

**Method**
Coroner records for 1565 deaths by suicide in Toronto (2003–2009) were reviewed for (a) will content and (b) the presence of depression, psychotic illness, dementia and intoxication prior to death.

**Results**
In total, 59 (20.7%) of 285 available suicide notes were found to have will content. Of those who left a will, 43 (72.9%) were reported to have a major mood or psychotic disorder, but none had dementia. Fifteen of 19 toxicology samples showed alcohol, sedative hypnotic/benzodiazepine, opioid and/or recreational drugs were present. Of those who left a will, 43 (72.9%) were reported to have a major mood or psychotic disorder.

**Conclusions**
A substantial minority of suicide notes may also include testamentary intent. The observed high rate of mental illness and substance use around the time of death has important clinical implications for understanding the mindset of people who die by suicide and hence also legal implications regarding testamentary capacity.

**Declaration of interest**
K.S. and C.P. have performed many assessments of testamentary capacity both contemporaneous and retrospective and have been qualified as expert witnesses in Ontario and Alberta, Canada and Australia, respectively.
**Study design**

The Office of the Chief Coroner (OCC) of Ontario granted us access to its records for the purposes of this research. All 1565 charts for deaths ruled by the OCC as suicides occurring in Toronto between 2003 and 2009 inclusive were reviewed for the presence of a suicide note. Notes were left in 516 (33.0%) of deaths. All handwritten or typed documents/note collected by the OCC at the scene of the death and/or person’s residence were reviewed, provided that they were legible and written in English. In some instances the original document was included and reviewed. In a small number (n = 6) the note was transcribed verbatim in the reports of the OCC or police. In 231 cases, the police or next of kin informed the coroner that there was a note present at the scene but the note itself was not given to/colllected by the OCC and placed in the chart. In these cases it was not possible to review the notes and therefore we were unable to analyse them for content; there was no suspicion raised by the coroner that certain notes were withheld by next of kin for any reason including the implications of their holograph will content. This left 285 notes that could be reviewed. The coroner’s investigation and, by extension, this study were not designed to determine exactly when notes/wills were written. However, details within the notes/wills such as the date or statements that the deceased were about to take their life, as well as the circumstances in which notes were found such as lying next to the body, strongly indicated that the vast majority (> 95%) appeared to have been left just prior to death (i.e. the day of death or the day before). Data were abstracted by the primary investigator (M.S.) and a research assistant. Initially 10 notes were coded independently to ensure good interrater reliability, which was demonstrated (> 90%). Throughout the period of data abstraction, two investigators (M.S. and A.S.) and the research assistant were in continuous contact to resolve questions about how to code each chart while maintaining consistency.

Data collected from the charts included basic demographics such as age, gender and marital status. The coroner’s investigation report and other reports such as police reports, interviews with next of kin and, in some cases, the deceased’s physician were reviewed for evidence of factors that might influence testamentary capacity such as depression, psychotic illness, dementia or alcohol/substance intoxication at the time of death. For most deaths by self-poisoning and, rarely, other methods of death by suicide, toxicology results were examined to investigate for the presence of substances that might impair decision-making such as alcohol, sedative hypnotics/benzodiazepines, opioids or recreational drugs at the time of death.

In 50 of 59 cases beneficiaries were specified in the will. Details regarding beneficiaries and bequeathed possessions are shown in Table 1. Where money was bequeathed, the amount ranged from a few hundred dollars to several hundred thousand dollars. This study was not designed to go beyond coroner records to investigate legal challenges that may have arisen from these wills, however, charts often include written correspondence with family members and there were no cases where reference was made to a legal proceeding challenging a will.

### Demographics, mental illness and toxicology results

Comparisons of demographics and mental illness between those who did and did not leave holograph will content in suicide notes as well as people who did not leave notes is shown in Table 2. The age range for those leaving wills was 22–86 years with 11 under the age of 21.

<table>
<thead>
<tr>
<th>Item</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicides with wills, n = 59</td>
<td></td>
</tr>
<tr>
<td><strong>Beneficiaries</strong></td>
<td></td>
</tr>
<tr>
<td>Sibling(s)</td>
<td>16 (27.1)</td>
</tr>
<tr>
<td>Children</td>
<td>11 (18.6)</td>
</tr>
<tr>
<td>Friend(s)</td>
<td>11 (18.6)</td>
</tr>
<tr>
<td>Parent(s)</td>
<td>6 (10.2)</td>
</tr>
<tr>
<td>Extended family</td>
<td>6 (10.2)</td>
</tr>
<tr>
<td>Other</td>
<td>7 (11.9)</td>
</tr>
<tr>
<td><strong>Items bequeathed</strong></td>
<td></td>
</tr>
<tr>
<td>Belongings/furniture/electronics</td>
<td>29 (49.2)</td>
</tr>
<tr>
<td>Entire estate*</td>
<td>25 (42.4)</td>
</tr>
<tr>
<td>Money</td>
<td>23 (39.0)</td>
</tr>
<tr>
<td>Home/property/vehicle</td>
<td>11 (18.6)</td>
</tr>
<tr>
<td>Pets</td>
<td>7 (11.9)</td>
</tr>
</tbody>
</table>

* a. Not necessarily sole beneficiaries.
* b. Notes included a statement to the effect that ‘everything’/‘all my possessions’/‘my estate’ was to be bequeathed.
age of 40, 41 between ages 40 and 65 and 7 over the age of 65. People who left wills were also far less likely to be married, more likely to be divorced or widowed and more likely to live alone than either comparator group. There were no individuals with dementia detected in those leaving wills. Of the 59 deaths by suicide with holograph wills/holograph will content, 19 had toxicology performed with 15 of these deaths by self-poisoning and 4 by other methods. For these 19 deaths, either alcohol, a sedative hypnotic/benzodiazepine, an opioid and/or a recreational drug was detected in 15. Ten of the 15 deaths involved substances from at least two categories. Alcohol was present in nine deaths, opioids in eight, sedative hypnotic/benzodiazepines in eight and other recreational drugs in fewer than five. There were no significant differences between rates of intoxication with these substances in will leavers compared with others who left notes or those who did not leave notes who had toxicology performed.

### Discussion

#### Holograph wills and testamentary capacity

This study is the first to demonstrate that holograph wills/holograph will content is present in a substantial minority of suicide notes. People dying by suicide do think about their beneficiaries and the fate of their assets prior to ending their lives. Indeed, this may suggest that, for some people, will-making may not only be a sign of impending death by suicide but actually a part of the suicide act. The fact that most wills are handwritten and signed means that courts would likely consider them valid holograph wills in the absence of evidence that the deceased lacked testamentary capacity. Although typed or emailed notes were also found frequently, these notes, even if printed and signed, do not comply even with the most relaxed formal requirements for a holograph will and would likely be considered invalid by the courts.

Although this study was not designed to examine whether any legal challenges arose from these deaths, the fact that some people bequeathed large sums of money or homes/property makes the issue of testamentary capacity highly relevant. As described, although death by suicide is taken into consideration by courts, it does not in and of itself mean that a person is acting irrationally or is incapable of executing a will. Nevertheless, a high proportion of people making holograph wills had a mental illness and, at least among those tested, drug/alcohol intoxication. Both mental illness and intoxication are known to impair decision-making in some instances and this raises the issue of testamentary capacity. Courts will examine extrinsic evidence as to the mental capacity of the testator at the time when the note was written and of consistent expressions of testamentary intention in order to establish the validity of a suicide note as a holograph will. For example, Popowich v. Capasso is a recent decision of the Alberta Court of the Queen’s Bench that considers the validity of the deceased’s suicide note as a holograph will.19 In this case, Justice Veit stated that: ‘[T]he case law establishes that the focus of the court on an issue of testamentary capacity is to determine whether, at the moment a person purports to make a testamentary disposition, the person knew who were the natural objects of their bounty and what their property was’ (at para 12). Justice Veit goes on to say that even those with severe mental illness are capable of possessing testamentary capacity, as mental capacity is both task and time specific. Although it may be suggestive of a troubled mental state, one cannot infer mental incapacity from the fact that a person is suicidal.20

The nature of the testamentary gifts provided in a suicide note may also be taken into consideration by courts when determining whether the note qualifies as a valid holograph will. Generally, when assets are left to the same individuals who would have inherited on an intestacy or earlier will, courts are more likely to accept that the testator had testamentary capacity. However, where the testator leaves assets to a mere acquaintance, the Court may be reluctant to decide that the testator possessed testamentary capacity. The sensibility and reasonability of the testamentary dispositions made within a suicide will can also be used to establish its validity as a holograph will, even where there is evidence of chronic depression and/or other mental illness. To what extent such factors are present in the wills examined here goes beyond the scope of our study. The finding that just under 50% of wills in our study referred non-specifically to the estate as a whole rather than the specific contents or nature of the estate is probably explained by the absence of a lawyer in these settings to provide details to the testator of the extent of the estate. It is unknown whether in these cases the testator knew or did not know the extent of their estate.
It is also notable that the people who left holograph wills were similar in age to other suicide victims and that none of them were identified as having dementia or other cognitive impairment, which are often an emphasis of work in the testamentary capacity field. One possible explanation is that those with dementia who die by suicide may have a decreased capacity to leave a suicide note and/or a will. This act requires goal-directed action that involves a wide range of brain functions including executive functions, concentration and memory. Individuals with dementia will be deficient in these necessary cognitive skills. That fewer people who left holograph wills were married or lived with others is also notable and may reflect the fact that unmarried people may be less likely to have a pre-existing will and that those who live alone or have no surviving partner may feel a greater need to specify to whom their estate is distributed.

Whether the kinds of holograph wills and/or content examined in this study would stand up to legal challenges in general would be quite dependent on the specific jurisdiction involved. Although Canada, England and the USA all have similar requirements for testamentary capacity, the validity of holograph wills is more variable. Holograph wills are valid in all Canadian provinces and throughout many other countries belonging to the European Union, specifically Austria, Belgium, Bulgaria, Croatia, Czech Republic, Estonia, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Poland, Slovakia and Spain. However, English law does not recognise the validity of holograph wills. In Australia, the criteria for a legally valid will are variable according to each state and in some cases unwitnessed and even unsigned wills have nevertheless been admitted to probate.

In the USA, holograph wills are only valid in a minority of jurisdictions, however The American Model Probate Code and Model Execution of Wills Act both authorise holograph wills and therefore their acceptance may become more widespread with time. In some instances, holograph wills are considered valid if other criteria are met. For example, in certain American states, they would be valid if the will is found where the testator stores other important documents, or if the testator is actively serving in the military at the time that the holograph will is drawn. In Scotland, a holograph will may be valid if affidavit evidence supports that the document is written in the testator's handwriting. Finally, in certain other European countries, such as Finland and Sweden, holograph wills may be recognised only if written within a certain time prior to the testator’s death.

**Strengths and limitations**

The key strengths of this study are the large sample size, the ability to review the wills in detail and the lack of prior data on this important issue. However, there are a number of significant limitations. Although we can infer that notes/wills left at the scene of death were drafted close to the time of death, in most cases there is no way to determine exactly when they were made. The timing of the recording of a suicide note in relation to the suicide act, for example, may be of relevance when determining whether the deceased possessed testamentary capacity at the relevant time, since the writing in close proximity to the time of death might indicate the presence of factors affecting testamentary capacity, including depression, alcohol intoxication and delusions caused by psychiatric disorders. Similarly, although we do have toxicology results for a number of the deaths, it is impossible to know whether a person drafted the will while intoxicated or alternatively whether he or she drafted the will while sober and then used a benzodiazepine for self-poisoning. Likewise, this study did not involve comprehensive psychological autopsies, so we cannot determine the extent to which a person diagnosed with bipolar disorder, for example, was experiencing a mood episode or psychosis just before death, which would be highly relevant in determining testamentary capacity. Furthermore, while the coroner’s investigation reports are comprehensive, they do in some cases rely on reports of next of kin that may not be fully reliable. Therefore, the reported rates of mental illness such as depression, psychosis and dementia should be considered estimates and it is possible that conditions such as early or mild dementia were underdetected. Indeed, we may also speculate that people known to have dementia who die by suicide may be more likely to have their deaths misclassified as a result of an accident or natural causes. Additionally, there was insufficient information to determine whether individuals had a terminal illness and thus, how many of these wills were indeed ‘deathbed wills’.

The absence of information about prior wills or wishes from the same people is also a limitation given that a significant deviation from prior expressed wishes could also be a factor that influences testamentary capacity. The degree to which suicide victims consider the act of bequeathing as a form of compensation to loved ones for their death or even as a justification for their death was also not examined in this study and merits further exploration. It should be noted that all forms of capacity are task and situation specific. Therefore, although the data available in this study may allow us to speculate about testamentary capacity in suicide victims in general terms, in order to arrive at a proper determination of testamentary capacity, each case would need to be evaluated individually. From a practical standpoint, such an evaluation usually arises where there is a legal challenge to testamentary capacity and an expert clinician is called upon to give evidence as to whether the Banks v. Goodfellow criteria are met and this evidence is then used as to inform the legal determination. Such a detailed review was not possible across the cases seen here and might also be legally moot in cases where will content failed to meet the formal requirements of a holograph will.

This study design did not allow us to investigate how frequently, if at all, the wills found in these suicide notes were executed or challenged legally but these may be important opportunities for future research. A further possible strength and limitation is the generalisability of the findings. Toronto is one of the most ethnically diverse cities in the world with more than 50% of the population born outside of Canada. On one hand, this provides a unique opportunity to examine suicide across diverse cultures, however, cultural considerations are likely important here and it was not possible to explore the frequency and content of wills to suicide victims from specific cultural groups. Finally, although the coroner records we reviewed were extremely thorough, any large repository of records is necessarily imperfect. The fact that notes were only available for review in slightly more than half of cases means that the 20.6% proportion of people who left holograph wills/content cannot be considered a definitive prevalence estimate since we do not know the prevalence for notes not reviewed.

**Directions for future research**

This is the first study to characterise holograph wills and holograph will content within or in physical proximity to suicide notes and it demonstrates that, at least in Toronto, their occurrence is not rare. Further research should focus on detailed psychological autopsies for cases such as these to determine how often people leaving such wills have mental disorders, intoxication or other significant stressors that may affect testamentary capacity. More importantly, we need to know in what way, if at all, these
disorders influence the act of making a will when they culminate in suicide.

**Acknowledgements**

This paper is part of a larger study of approximately 3000 suicides from 1998 to 2010 the details of which are published in an article in the Canadian Journal of Psychiatry cited in the text here. That article quotes the percentages of people from that larger sample who left notes but otherwise has no overlap with this article and does not include data on handwriting.

We thank James Edwards, June Lindsell, Andrew Stephen and the staff at the Office of the Chief Coroner of Ontario for their support in making this research possible. We further thank Catherine Reis, Michelle Messner and Marcus Allan for their efforts to make this work possible.

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