expert clinical judgement, followed by validation against case note review (n=1058).

**Results** The algorithm developed had sensitivity 74% (95% CI 69% to 78%) and estimated specificity was 94%. Applied to all Scottish hospital activity data for 2005 (n=883 K), the algorithm gave an estimate of annual incidence of severe sepsis (2.7%) and case mortality (34%). Analyses were undertaken of factors associated with severe sepsis and outcomes. For example, it was found that in those with severe sepsis, critical care admission was less common in females and those aged over 70 years.

**Conclusion** Internationally, this is the first rigorously-validated algorithm to detect severe sepsis, and performance is impressive given the complex nature of the condition. Application of the algorithm to provide reliable hospital-wide case rates will allow monitoring of incidence and outcomes, and better-informed planning of intensive care services.

**Methods** Three statistical approaches, based on similar assumptions that a fraction of patients will be cured from cancer, were used to estimate the fraction cured. The first approach was CANSURV software and the second was developed by De Angelis et al. (1999), both using grouped survival data. The third was published by Lambert et al. (2007), requiring individual patient records. All three approaches fit mixture cure models; and CANSURV and Lambert’s implementation use maximum likelihood, while De Angelis’ implementation is based on non-linear least squares. Cansurv is a standalone program whereas the other approaches were implemented using SAS and Stata respectively. SEER-9 data for rectal cancer were used to illustrate the methods.

**Results** As shown in the Abstract P1-63 table 1, estimates of the cure fraction were similar for the two approaches requiring grouped survival data while Lambert’s method provided lower a estimate for patients with localised disease.

### Abstract P1-63 Table 1

<table>
<thead>
<tr>
<th></th>
<th>Cansurv 1999</th>
<th>De Angelis 1999</th>
<th>Lambert 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localised</td>
<td>0.720</td>
<td>0.738</td>
<td>0.667</td>
</tr>
<tr>
<td>Regional</td>
<td>0.404</td>
<td>0.406</td>
<td>0.398</td>
</tr>
<tr>
<td>Distant</td>
<td>0.049</td>
<td>0.033</td>
<td>0.034</td>
</tr>
</tbody>
</table>

**Discussion** The three approaches provided similar estimates of the cure fraction for patients with regional and distant stage at diagnosis, however there are considerable differences in the estimates for patients with localised disease. Estimates of the cure fraction appear to depend on the choice of statistical model even when the underlying assumptions are very similar.

**P1-64** NOVEL GENETIC RISK VARIANTS FOR BREAST CANCER: FROM DISCOVERY TO DISEASE PREVENTION

**Methods** The Public Health Agency of Canada has met this challenge by establishing a multidisciplinary committee, comprised of public health experts, continuing education experts, practitioners and program participants. This “virtual committee” uses a variety of communication options to permit monthly virtual meetings, supplemented by online sessions and demonstrations, and occasional face-to-face meetings.

**Results** This approach has resulted in a dynamic process for the continued review and revision of the content of online learning modules, establishment of some innovative learning solutions, and ongoing evaluation of the program.

**Conclusion** A virtual committee efficiently and effectively provides for maintenance of content, essential for the Public Health Agency of Canada’s continued delivery of high quality continuing education for public health practitioners.

**P1-63** ESTIMATING FRACTION CURED FROM CANCER: WHICH STATISTICAL PACKAGE TO USE?

**Background** Estimates of the fraction of patients cured from cancer provide important information to both patients and clinicians. But how reliable are the estimates?