### Table 1. Annual incidence of all-cause pneumonia and pneumococcal pneumonia (per 100,000 persons) between 2004-2017

<table>
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</thead>
<tbody>
<tr>
<td><strong>All-cause pneumonia</strong></td>
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<tr>
<td>Overall*</td>
<td>633</td>
<td>754</td>
<td>658</td>
<td>677</td>
<td>699</td>
<td>661</td>
<td>812</td>
<td>726</td>
<td>769</td>
<td>712</td>
<td>692</td>
<td>660</td>
<td>742</td>
<td>679</td>
</tr>
<tr>
<td>0-19 y</td>
<td>232</td>
<td>388</td>
<td>424</td>
<td>272</td>
<td>270</td>
<td>257</td>
<td>548</td>
<td>334</td>
<td>443</td>
<td>527</td>
<td>436</td>
<td>364</td>
<td>626</td>
<td>478</td>
</tr>
<tr>
<td>20-64 y</td>
<td>77·3</td>
<td>96·2</td>
<td>94·2</td>
<td>88·9</td>
<td>89·9</td>
<td>98·1</td>
<td>142</td>
<td>127</td>
<td>134</td>
<td>136</td>
<td>134</td>
<td>133</td>
<td>167</td>
<td>149</td>
</tr>
<tr>
<td>≥ 65 y</td>
<td>2664</td>
<td>3166</td>
<td>2732</td>
<td>3059</td>
<td>3282</td>
<td>3148</td>
<td>3661</td>
<td>3501</td>
<td>3671</td>
<td>3276</td>
<td>3261</td>
<td>3144</td>
<td>3252</td>
<td>3059</td>
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<tr>
<td><strong>Pneumococcal pneumonia</strong></td>
<td></td>
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</tr>
<tr>
<td>Overall*</td>
<td>17·4</td>
<td>18·5</td>
<td>16·5</td>
<td>16·3</td>
<td>15·9</td>
<td>13·7</td>
<td>13·1</td>
<td>15·4</td>
<td>14·8</td>
<td>14·1</td>
<td>13·4</td>
<td>13·0</td>
<td>12·6</td>
<td>12·2</td>
</tr>
<tr>
<td>0-19 y</td>
<td>11·4</td>
<td>11·8</td>
<td>12·2</td>
<td>10·2</td>
<td>9·87</td>
<td>8·34</td>
<td>9·67</td>
<td>10·6</td>
<td>12·4</td>
<td>13·9</td>
<td>13·9</td>
<td>14·6</td>
<td>15·5</td>
<td>13·7</td>
</tr>
<tr>
<td>20-64 y</td>
<td>4·16</td>
<td>4·44</td>
<td>3·87</td>
<td>3·97</td>
<td>4·03</td>
<td>3·70</td>
<td>3·89</td>
<td>5·26</td>
<td>4·25</td>
<td>5·04</td>
<td>4·98</td>
<td>5·47</td>
<td>5·48</td>
<td>5·12</td>
</tr>
<tr>
<td>≥ 65 y</td>
<td>64·8</td>
<td>71·5</td>
<td>63·0</td>
<td>65·7</td>
<td>67·2</td>
<td>58·9</td>
<td>53·2</td>
<td>61·2</td>
<td>60·7</td>
<td>52·6</td>
<td>47·8</td>
<td>42·8</td>
<td>39·5</td>
<td>39·9</td>
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</table>

Note: * age-standardised incidence using HK census population in 2017 as reference
Table 2. Interrupted time series analysis for the effect of childhood PCV immunisation among the overall population

<table>
<thead>
<tr>
<th>Effect</th>
<th>IRR*</th>
<th>95% CI</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
<td><strong>All-cause pneumonia</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trend in pre-PCV period</td>
<td>1·0007</td>
<td>0·9977-1·0036</td>
<td>0·6519</td>
</tr>
<tr>
<td>Level change</td>
<td>1·0117</td>
<td>0·8496-1·2047</td>
<td>0·8959</td>
</tr>
<tr>
<td>Slope change (gradual effect)</td>
<td>0·9965</td>
<td>0·9932-0·9998</td>
<td>0·0378</td>
</tr>
<tr>
<td><strong>Pneumococcal pneumonia</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trend in pre-PCV period</td>
<td>0·9973</td>
<td>0·9950-0·9996</td>
<td>0·0229</td>
</tr>
<tr>
<td>Level change</td>
<td>1·0122</td>
<td>0·8613-1·1895</td>
<td>0·8832</td>
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<tr>
<td>Slope change (gradual effect)</td>
<td>0·9977</td>
<td>0·9946-1·0007</td>
<td>0·1341</td>
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<tr>
<td><strong>Fracture of lower or upper limb (negative control)</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Trend in pre-PCV period</td>
<td>0·9978</td>
<td>0·9970-0·9985</td>
<td>&lt; 0·0001</td>
</tr>
<tr>
<td>Level change</td>
<td>1·1831</td>
<td>1·1191-1·2507</td>
<td>&lt; 0·0001</td>
</tr>
<tr>
<td>Slope change (gradual effect)</td>
<td>1·0036</td>
<td>1·0029-1·0044</td>
<td>&lt; 0·0001</td>
</tr>
</tbody>
</table>

Abbreviations: CI: confidence interval; IRR: incidence rate ratio

Note: * Incidence rate ratio for change in PCV introduction incidence per month post intervention.
Table 3. Slope change effect of childhood PCV immunisation, by age group

<table>
<thead>
<tr>
<th>Age groups</th>
<th>IRR*</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>All-cause pneumonia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-19 y</td>
<td>1.0016</td>
<td>0.9958-1.0074</td>
<td>0.5925</td>
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<tr>
<td>20-64 y</td>
<td>0.9995</td>
<td>0.9964-1.0026</td>
<td>0.7677</td>
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<tr>
<td>≥ 65 y</td>
<td>0.9928</td>
<td>0.9904-0.9953</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Pneumococcal pneumonia</td>
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</tr>
<tr>
<td>0-19 y</td>
<td>1.0053</td>
<td>0.9986-1.0120</td>
<td>0.1233</td>
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<tr>
<td>20-64 y</td>
<td>1.0011</td>
<td>0.9969-1.0053</td>
<td>0.6147</td>
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<tr>
<td>≥ 65 y</td>
<td>0.9911</td>
<td>0.9875-0.9948</td>
<td>&lt;0.0001</td>
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<tr>
<td>Fracture of lower or upper limb (negative control)</td>
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</tr>
<tr>
<td>0-19 y</td>
<td>1.0047</td>
<td>1.0028-1.0066</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>20-64 y</td>
<td>1.0042</td>
<td>1.0036-1.0048</td>
<td>&lt;0.0001</td>
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<tr>
<td>≥ 65 y</td>
<td>1.0003</td>
<td>0.9988-1.0017</td>
<td>0.7040</td>
</tr>
</tbody>
</table>

Abbreviations: CI: confidence interval; IRR: incidence rate ratio

Note: * Incidence rate ratio for change in PCV introduction incidence per month post intervention.