Supplementary Online Content


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**eFigure 5.** Proportion of Patients Receiving Bystander CPR Among 30-Day Survivors

This supplementary material has been provided by the authors to give readers additional information about their work.
**eTable 1.** Changes in Bystander CPR and 30-Day Survival During the Study Period in Selected Subgroups

<table>
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<tr>
<td><strong>Bystander CPR, arrest in private home, No. (%)</strong></td>
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<td>215  (18.5)</td>
<td>241  (19.5)</td>
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<td>485  (33.8)</td>
<td>507  (36.8)</td>
<td>11 216</td>
<td>4049</td>
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<tr>
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<td>507  (36.8)</td>
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<td>1073 (11.3)</td>
<td>9474</td>
</tr>
<tr>
<td>2006</td>
<td>210  (22.1)</td>
<td>271  (26.4)</td>
<td>403  (32.5)</td>
<td>485  (33.8)</td>
<td>507  (36.8)</td>
<td>527  (36.8)</td>
<td>585  (37.3)</td>
<td>691  (34.8)</td>
<td>737  (32.6)</td>
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<td>1073 (11.3)</td>
<td>9474</td>
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<td>2007</td>
<td>215  (18.5)</td>
<td>210  (22.1)</td>
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<td>&lt;.001</td>
<td>1073 (11.3)</td>
<td>9474</td>
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<td>2008</td>
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<td>691  (34.8)</td>
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<td>&lt;.001</td>
<td>1073 (11.3)</td>
<td>9474</td>
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<tr>
<td>2009</td>
<td>210  (22.1)</td>
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<td>737  (32.6)</td>
<td>805  (31.8)</td>
<td>&lt;.001</td>
<td>1073 (11.3)</td>
<td>9474</td>
</tr>
<tr>
<td>2010</td>
<td>2793 (24.9)</td>
<td>11 216</td>
<td>4049</td>
<td>1975 (50.1)</td>
<td>3945</td>
<td>8732</td>
<td>1231</td>
<td>9474</td>
<td>1231</td>
<td>9474</td>
<td>&lt;.001</td>
<td>1073 (11.3)</td>
<td>9474</td>
</tr>
</tbody>
</table>

Temporal trends were tested. A p-value <.05 was considered statistically significant.

a2001 consists of 7 months from June to December. All abbreviations can be found in Table 1.
bNumber of patients with data for variable(s) of interest.
cNumber of patients with missing value for variable(s) of interest.
### eTable 2. New Onset of Neurologic Diseases Related to Cardiac Arrest in 1-Year Survivors<sup>a</sup>

<table>
<thead>
<tr>
<th></th>
<th>OHCA Year</th>
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<th></th>
<th>P Value</th>
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<tr>
<td></td>
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<td>2002</td>
<td>2003</td>
<td>2004</td>
<td>2005</td>
<td>2006</td>
<td>2007</td>
<td>2008</td>
<td>2009</td>
<td>2010</td>
<td>2001-2010</td>
<td></td>
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<tr>
<td>1-year survival, No.</td>
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<td>75</td>
<td>90</td>
<td>87</td>
<td>100</td>
<td>133</td>
<td>122</td>
<td>173</td>
<td>184</td>
<td>195</td>
<td>1196</td>
<td>.03</td>
<td>123 (10.3)</td>
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<tr>
<td>Anoxic brain damage, No. (%)</td>
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<td>5 (13.5)</td>
<td>11 (14.7)</td>
<td>9 (10.0)</td>
<td>14 (16.1)</td>
<td>9 (9.0)</td>
<td>11 (8.3)</td>
<td>19 (15.6)</td>
<td>15 (8.7)</td>
<td>16 (8.7)</td>
<td>14 (7.2)</td>
<td>1196 (13.4)</td>
<td>.03</td>
<td>123 (10.3)</td>
</tr>
<tr>
<td>Dementia, No. (%)</td>
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<td>1 (2.7)</td>
<td>3 (4.0)</td>
<td>1 (1.1)</td>
<td>1 (1.2)</td>
<td>0 (0.0)</td>
<td>1 (0.8)</td>
<td>3 (2.5)</td>
<td>2 (1.2)</td>
<td>3 (1.6)</td>
<td>0 (0.0)</td>
<td>145 (1.3)</td>
<td>.14</td>
<td>15 (1.3)</td>
</tr>
<tr>
<td>Hemiplegia, paraplegia, or tetraplegia, No. (%)</td>
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<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>2 (2.0)</td>
<td>1 (0.8)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
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<td>1 (0.5)</td>
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<td>4 (0.3)</td>
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<td>Epilepsy or status epilepticus, No. (%)</td>
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<td>1 (1.3)</td>
<td>0 (0.0)</td>
<td>2 (2.3)</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
<td>1 (0.8)</td>
<td>2 (1.2)</td>
<td>2 (1.1)</td>
<td>0 (0.0)</td>
<td>9 (0.8)</td>
<td>.36</td>
<td>9 (0.8)</td>
</tr>
<tr>
<td>Disorder of central nervous system, unspecified; disorder of brain, unspecified; encephalopathy, unspecified, No. (%)</td>
<td></td>
<td>0 (0.0)</td>
<td>1 (1.3)</td>
<td>0 (0.0)</td>
<td>4 (4.6)</td>
<td>1 (1.0)</td>
<td>4 (3.0)</td>
<td>3 (2.5)</td>
<td>7 (4.1)</td>
<td>5 (2.7)</td>
<td>5 (2.6)</td>
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<td>30 (2.5)</td>
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<td>Neurologic diseases, total, No. (%)</td>
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<td>6 (16.2)</td>
<td>13 (17.3)</td>
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<td>17 (19.5)</td>
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<td>18 (9.2)</td>
<td>160 (13.4)</td>
<td>.07</td>
<td>160 (13.4)</td>
</tr>
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</table>

Temporal trends were tested. *P* < .05 was considered statistically significant.

<sup>a</sup>Patients with no similar diagnosis up to 5 years prior to cardiac arrest were considered to have a new onset. New onset was defined as an event in the period from hospital discharge to 30 days after discharge following cardiac arrest.

<sup>b</sup>2001 consists of 7 months from June to December.
eFigure 1. Temporal Trends in Bystander CPR With Joinpoint Analysis

<table>
<thead>
<tr>
<th>Year</th>
<th>(%)</th>
<th>Bystander CPR, modeled values</th>
<th>Bystander CPR, observed values</th>
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</thead>
<tbody>
<tr>
<td>2000</td>
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<tr>
<td>2002</td>
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<td>2008</td>
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<tr>
<td>2010</td>
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</tbody>
</table>

- a) about 175,000 first aid certificates distributed in Denmark annually, 2001-2004
- b) introduction of therapeutic hypothermia in Denmark starting from 2004
- c) mandatory education in resuscitation in elementary schools (January 2005)
- d) distribution of around 150,000 CPR self-instruction training kits between 2005-2010
- e) new guidelines for resuscitation (November 2005)
- f) mandatory resuscitation course when acquiring a driver's license (October 2006)
- g) increase to about 300,000 first aid certificates distributed in Denmark annually, 2008-2010
- h) the addition of healthcare professionals at dispatch centers starting from 2009

‡ throughout the study period:
- 1) a large increase in number of AEDs located outside hospitals (approximately 15,000 in 2011)
- 2) implementation of paramedics, and/or mobile emergency care units staffed with anesthesiologists
**eFigure 1 (cont’d). Temporal Trends in Bystander CPR With Joinpoint Analysis**

Proportion of patients who received bystander CPR according to calendar year. One statistically significant joinpoint was identified in 2005 (95% CI, 2003-2008) followed by an increasing slope along with the national initiatives. A two-sided p-value <0.05 was considered statistically significant.

AED = automated external defibrillators; CI = confidence interval; CPR = cardiopulmonary resuscitation.
**eFigure 2.** Temporal Trends in Survival on Arrival at the Hospital With Joinpoint Analysis

![Graph showing temporal trends in survival on arrival at the hospital with joinpoint analysis.](image)

- **Survival on arrival at the hospital, modeled values**
- **Survival on arrival at the hospital, observed values**

Abbreviations:
- a) about 175,000 first aid certificates distributed in Denmark annually, 2001-2004
- b) introduction of therapeutic hypothermia in Denmark starting from 2004
- c) mandatory education in resuscitation in elementary schools (January 2005)
- d) distribution of around 150,000 CPR self-instruction training kits between 2005-2010
- e) new guidelines for resuscitation (November 2005)
- f) mandatory resuscitation course when acquiring a driver's license (October 2006)
- g) increase to about 300,000 first aid certificates distributed in Denmark annually, 2008-2010
- h) the addition of healthcare professionals at dispatch centers starting from 2009

‡ throughout the study period:
- 1) a large increase in number of AEDs located outside hospitals (approximately 15,000 in 2011)
- 2) implementation of paramedics, and/or mobile emergency care units staffed with anesthesiologists

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eFigure 2 (cont’d). Temporal Trends in Survival on Arrival at the Hospital With Joinpoint Analysis

Proportion of patients who achieved survival upon arrival at the hospital according to calendar year. One statistically significant joinpoint was identified in 2006 (95% CI, 2003-2008) followed by an increasing slope along with the national initiatives. A two-sided p-value <0.05 was considered statistically significant.

AED = automated external defibrillators; CI = confidence interval
**eFigure 3.** Temporal Trends in 30-Day Survival With Joinpoint Analysis

![Graph showing temporal trends in 30-day survival with joinpoint analysis.](image)

- **Year**
  - 2000
  - 2002
  - 2004
  - 2006
  - 2008
  - 2010

- **(%)**
  - 0
  - 2
  - 4
  - 6
  - 8
  - 10
  - 12

30-day survival, modeled values
30-day survival, observed values

- **a)** about 175,000 first aid certificates distributed in Denmark annually, 2001-2004
- **b)** introduction of therapeutic hypothermia in Denmark starting from 2004
- **c)** mandatory education in resuscitation in elementary schools (January 2005)
- **d)** distribution of around 150,000 CPR self-instruction training kits between 2005-2010
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- **h)** the addition of healthcare professionals at dispatch centers starting from 2009

‡ throughout the study period:
- 1) a large increase in number of AEDs located outside hospitals (approximately 15,000 in 2011)
- 2) implementation of paramedics, and/or mobile emergency care units staffed with anesthesiologists
**eFigure 3 (cont’d).** Temporal Trends in 30-Day Survival With Joinpoint Analysis

Proportion of patients who achieved 30-day survival according to calendar year. No statistically significant joinpoint was identified, p=0.09.

AED = automated external defibrillators
eFigure 4. Temporal Trends in 30-Day Survival in Relation to Bystander CPR

Proportion of patients achieving 30-day survival according to calendar year for: (1) patients who received bystander CPR; and (2) patients who did not receive bystander CPR. Patients with missing data for whether bystander CPR was given were excluded in the analysis (n=1193 [6.1%]). A two-sided p-value <0.05 was considered statistically significant.

CPR = cardiopulmonary resuscitation

*P<0.001
**eFigure 5.** Proportion of Patients Receiving Bystander CPR Among 30-Day Survivors

Proportion of patients achieving 30-day survival according to calendar year with survivors stratified according to whether bystander CPR was given. Patients with missing data for whether bystander CPR was given were excluded in the analysis (n=1193 [6.1%]).

CPR = cardiopulmonary resuscitation