MRC 2013

Registry Reports & CARES Data

MN Resuscitation Consortium

University of Minnesota

Driven to Discover

HeartRescue Project
CPR Study – 15 Years

Trends in Cardiopulmonary Resuscitation (CPR) 1985-1987 through 2000-2002:
The Minnesota Heart Survey

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Division of Epidemiology and Community Health, University of Minnesota, Minneapolis, MN, USA

Background
- CPR is an effective way to reverse cardiac arrest.
- Prehospital cardiac arrest survival is low worldwide.
- CPR varies by geography, sex, and age.
- CPR rates and survival rates vary significantly.

Methods
- Minnesota Heart Survey (MHS) is a 5-year population survey with 6 cycles.
- MHS includes 8,000 interviews per cycle.
- MHS includes an interview, physical exam, and questionnaire.
- MHS data includes demographics, medical history, and behaviors.

Objectives
- To examine trends in CPR rates and survival rates.
- To examine trends in CPR rates and survival rates by geography, sex, and age.
- To examine trends in CPR rates and survival rates by region.
- To examine trends in CPR rates and survival rates by cause.

Analysis
- Data analyzed using SAS and SPSS.
- Analysis includes descriptive statistics and regression analysis.
- Analysis includes trend analysis and survival analysis.

Results
- CPR rates and survival rates vary significantly by geography, sex, and age.
- CPR rates and survival rates vary significantly by cause.

Conclusion
- CPR rates and survival rates have increased over time.
- CPR rates and survival rates vary significantly by geography, sex, and age.
- CPR rates and survival rates vary significantly by cause.
- Increased CPR rates and survival rates may be due to increased awareness and training.

The Minnesota Heart Survey
The number of people trained in CPR increased significantly. In 1985/87, many were health care providers; whereas in 2000/02, the number of bystander trained increased substantially.

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<thead>
<tr>
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<tbody>
<tr>
<td>Trained in CPR</td>
<td>36 %</td>
<td>65.1%</td>
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<tr>
<td>Bystander CPR</td>
<td>13.5%</td>
<td>14.5%</td>
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Minnesota State Survey

This survey is done by the Minnesota Center for Survey Research at the University of Minnesota.

The MSS is an “omnibus” survey, where individual organizations define and pay for questions that are of special interest to them.

Three Goals:
1. To obtain useful and technically sound information for researchers and public policy decision-makers about the characteristics, attitudes, and behaviors of Minnesota residents.
2. To develop an ongoing social monitoring capability for the state of Minnesota. (since 1984)
3. To develop and refine methods for conducting social surveys.
Minnesota State Survey

There are five topics in the survey: Quality of Life; Organizational Awareness; Tourism; Health; and Miscellaneous.

75% of calls were from landlines and 25% from cell phones.

Exclusions included: business numbers, out of state residents, under age 18; and unwilling to complete survey.

Geographic placement and gender are representative of population (example District 3 has 7% of state population and represents 8% of the responses).

Age varies with a similar responses in 45-54 year category but has more responses in the 54+ vs. under 44. This has been noted as progressively changing as less younger residents are willing to take surveys via phone.

The MSS margin of error is plus or minus 3.5% if all Minnesota residents were surveyed.
Minnesota State Survey 2011

800 random households polled throughout MN - 3 Questions on CPR

MINNESOTA STATE SURVEY 2011

3. Do you know how to do CPR?
   (INTERVIEWER: CPR is Cardiopulmonary Resuscitation)

   1. Yes
   2. No (IF NO, GO TO NEXT SECTION)
   3. DK (IF DK, GO TO NEXT SECTION)
   4. RA (IF RA, GO TO NEXT SECTION)

   a. (IF YES) Have you received any type of training in CPR in the past two years?

      1. Yes
      2. No
      3. DK
      4. RA
      5. NA

   b. (IF YES) How confident do you feel that you could do CPR if it was needed?

      1. Very confident
      2. Somewhat confident
      3. Not very confident
      4. DK
      5. RA
      6. NA
## What did we find?

<table>
<thead>
<tr>
<th></th>
<th>Greater MN</th>
<th>TC Metro</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Do you know CPR?</strong></td>
<td>70.2%</td>
<td>72 %</td>
<td>71.1%</td>
</tr>
<tr>
<td><strong>Have you had any training in the last 2 years?</strong></td>
<td>38.9%</td>
<td>31.7%</td>
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<tr>
<td><strong>How confident to perform if needed?</strong></td>
<td>42.3%</td>
<td>37.4%</td>
<td>39.8%</td>
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2011 Minnesota Bystander CPR Rate 31%
### What did we find?

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<td>78%</td>
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<td>58.6%</td>
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<tr>
<td><strong>Have you had any</strong></td>
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<td>54.7%</td>
<td>32.9%</td>
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Minnesota State Survey 2013

801 random households polled throughout MN - 3 Questions on CPR
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2013 Minnesota Bystander CPR Rate 36%
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<td>63.9%</td>
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So, if we have more SCA’s witnessed then why ......
Is our bystander CPR rate lower?

And our bystander AED rate lower?
What is the problem?

Bystander CPR has doubled since 2000 but is it enough?
Fear Factor

Gosh... I used to know CPR...

He looks like a lawyer...

Someone else will help... right?

Huh?

I think he is breathing...

Can I catch a disease just by looking?
The Solution?
Awareness
The Solution? Training Confidence

HARD & FAST HANDS-ONLY CPR
It's not as hard as it looks.

Two Steps to save a life:

1. Call 911
2. Push hard and fast in the center of the chest

Hands-Only CPR, No Excuses
How do we know if we are successful?

Registry #’s
54,253 Trained
28 Counties
60+ Affiliations
100+ Instructors
And Growing
Growth of MN AED Registry

AEDs Registered

- May-12
- Jul-12
- Sep-12
- Nov-12
- Mar-13
- May-13
- Jul-13
- Sep-13
- Nov-13
- Jan-14
- Mar-14
- May-14
- Jul-14
- Sep-14

AEDs Registered
What can we do for a bigger impact?

Discussing:

• Connecting other registries?
• Specific shorter website?
• Connect to dispatch?
• Others?

Is your AED registered?

A properly maintained AED is important to any community readiness plan. AED’s should be accessible and ready to use when an emergency arises.

Do you know that there is an AED Registry law in Minnesota?

In the 2014 legislative session a bill relating to public safety; providing for the registration of automatic external defibrillators; was passed into Minnesota Statute. This law goes into effect August 1, 2014.

403.51 AUTOMATIC EXTERNAL DEFIBRILLATION

Owners of AEDs intended for public use (use by the general public or guests in a workplace) are required to register their AEDs in either the free Minnesota Registry or a private registry that includes a maintenance plan. Registries that are compliant with the law will remind AED owners to periodically check the device to ensure it is in working order; remind them to replace electrodes and batteries that are nearing expiration dates; and alert owners of any applicable product warnings or recalls.

The intent of the law is to ensure AED readiness and maintenance.

The MN AED Registry is a free tool that helps AED owners by providing:
1. Updates from manufacturers
2. Reminders to replace electrodes and batteries
3. Regular registry data update reminders
4. Management tools for locations with multiple AEDs

The MN AED registry is part of the National AED registry and can be used with other InFocus products such as AED Link for mapping and responder notification programs.

Public or private AED owners can register devices for free at minnesota.nationalaedregistry.com.
Contact your local EMS/Fire Department, AED distributor or mrc@umn.edu for additional questions.
Measure, Evaluate & Document

- Consider evaluation and measures early in the process.
- Make sure one person is keeping it on task.
- Measures can be surveys, outcomes and others but should show some indication of original goal accomplishments.
- Use data to show success and to develop ongoing work.
The purpose of measurement in QI work is for learning not judging!

All measures have limitations, but the limitations do not negate their value for learning.

You need a balanced set of measures to determine if the process has improved, stayed the same or become worse.
## Overall Report

<table>
<thead>
<tr>
<th></th>
<th>Year</th>
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<tbody>
<tr>
<td></td>
<td>2011</td>
</tr>
<tr>
<td>Submitted Cases, n</td>
<td>801</td>
</tr>
<tr>
<td>Overall survival to discharge</td>
<td>12.7%</td>
</tr>
<tr>
<td>Bystander-witnessed survival</td>
<td>17.6%</td>
</tr>
<tr>
<td>Utstein survival</td>
<td>36.1%</td>
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<td>Bystander CPR</td>
<td>26.5%</td>
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<tr>
<td>Survivor count, n</td>
<td>91</td>
</tr>
<tr>
<td>Intact survivors, n (CPC 1/2)</td>
<td>79</td>
</tr>
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</table>
Bystander CPR Comparison

[Bar chart showing comparison of CPR rates across different regions and years, labeled A to MN.]
Survival Rates

Utstein Survival Rate

Overall Survival Rate
Survivors
HR National Data

Submitted Cases

- PNW
- NC
- PA
- MN
- AZ
- AMR

Survivors

- PNW
- NC
- PA
- MN
- AZ
- AMR

Bystander CPR Rate (%)

- AMR
- AZ
- MN
- PA
- NC
- PNW

Bystander Witnessed Survival (%)

- 2011
- 2012
- 2013

AMR
AZ
MN
PA
NC
PNW
QUESTIONS?

Find us on
Facebook
Twitter
Linked In

MN Resuscitation Consortium
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