

# Q2M2

Quality | Quantitative  
Measurement | Management

# Measuring 1 year retention for first aiders' first aid training

Pilot study



World Conference on Drowning Prevention (WCDP) 2019, Durban

## Developed by:

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## Supported by:



**The Danish Council for Greater Water Safety, Denmark**  
<http://www.badesikkerhed.dk/en/>



**The North Zealandic Lifeguard Organisation, Denmark**  
<http://livredningstjenesten.dk/>

# Problem

- ❑ In stressful situation remembering the procedures required by various first aid guidelines is difficult.
- ❑ This can result in incorrect first aid treatment - or that first-aiders avoid giving first aid.
- ❑ We don't have quality data for the retention of first aid training.

# Objectives

- ❑ **Short term:** Measuring 1 year retention for first aid training to first aiders
- ❑ **Long term:** Developing a cost-efficient program on how to sustain first aid capabilities over time

# Method

For the data collection and data analysis we have applied:

- ❑ The Statistical Value Chain (SVC)\* [www.q2m2.com/the-statistical-value-chain](http://www.q2m2.com/the-statistical-value-chain)
- ❑ Based on the SVC we have developed a test protocol and scheme for testing first aid skills. The test protocol/scheme can be found here:  
<https://form.q2m2.com/int-first-aid-skills-test/>

\*Herrmann, I. T., G. Henningsen, C. D. Wood, J. I. R. Blake, J. B. Mortensen, and H. Spliid. 2013. The Statistical Value Chain (SVC)—A Benchmarking Checklist for Decision Makers to Evaluate Decision Support seen from a Statistical Point-of-View. *International Journal of Decision Sciences* 4(2). July–December 2013.

# The test

- ❑ **55 students** at Copenhagen Risk and Emergency Management School.
- ❑ **22 of the students** met the criteria:
  - Received extended first aid training 12 months earlier.
  - Had no additional first aid training in the intermediate 12 months.

## Also:

- All tests were carried out individually.
- The students were told to act as if this was a real live incident where they should act immediately without time for preparation (for “the exam”).
- The test facility was a lecture hall prepared with six different classical “first aid” scenarios.
- The students had to answer a questionnaire with 18 relevant first aid questions.
- The students had no prior knowledge of the test.
- All tests were evaluated based on a scale from 1 to 5 where 1 is incorrect and 5 is correct.
- CPR practice was evaluated based on data from Little Anne QCPR.
- Two independent first aid instructors were present (to verify the tests).

# The first aid tests

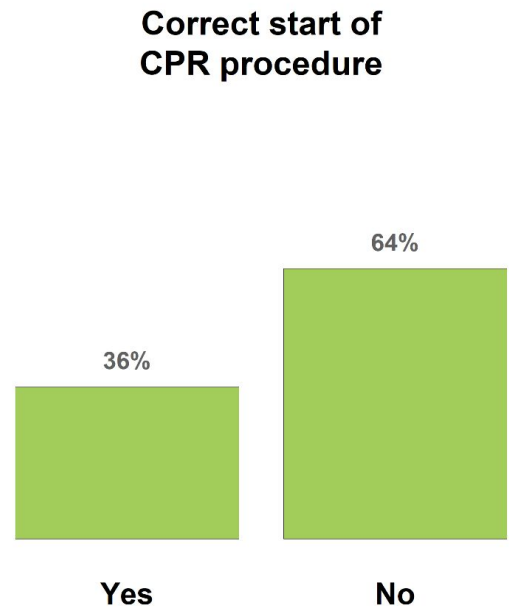
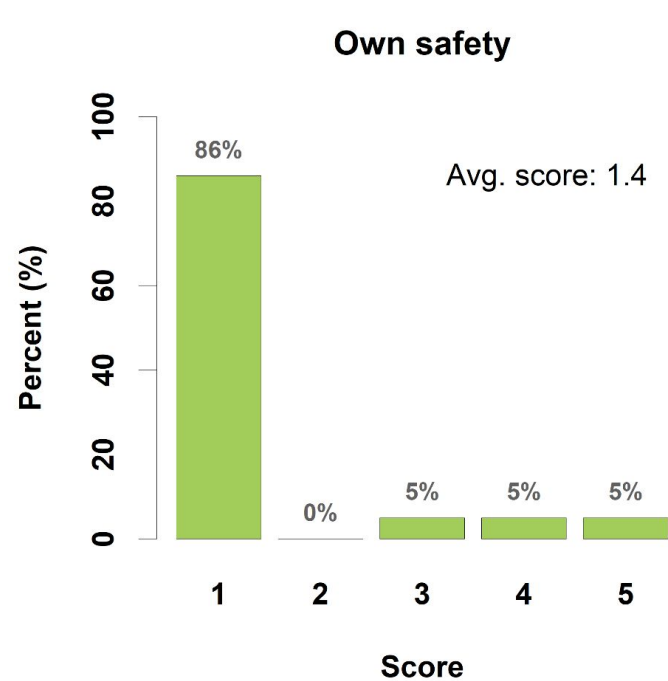
1. Personal safety
2. Airways
3. CPR
4. Stop bleeding
5. Heimlich method
6. Questionnaire

## Questionnaire, examples:

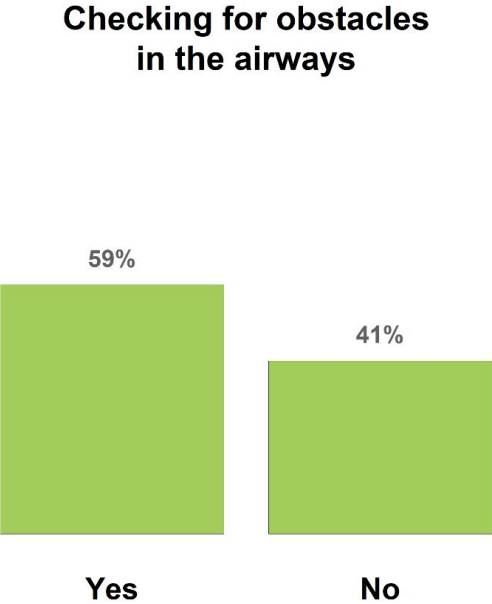
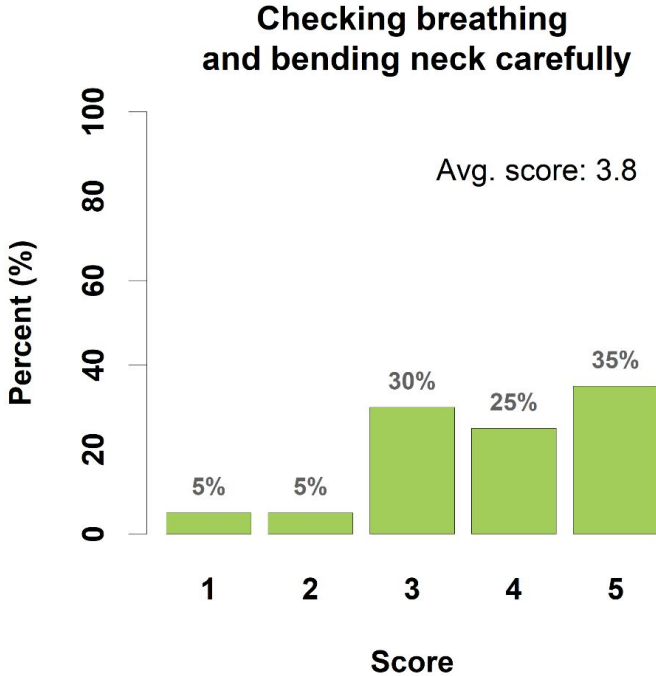
- ☐ What are symptoms of shock?
- ☐ What are the symptoms of anaphylactic shock?
- ☐ What's the correct treatment of anaphylactic shock?
- ☐ What factors can lead to shock?
- ☐ What is the symptoms on blood clot?



# Results (1 of 6)

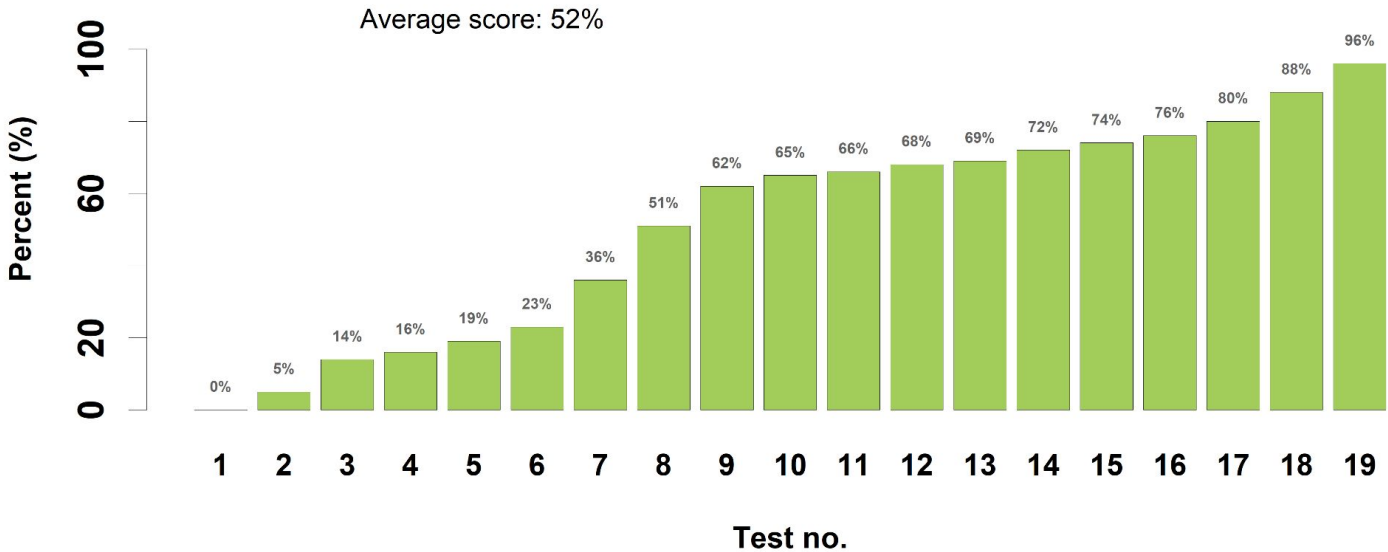


# Results (2 of 6)

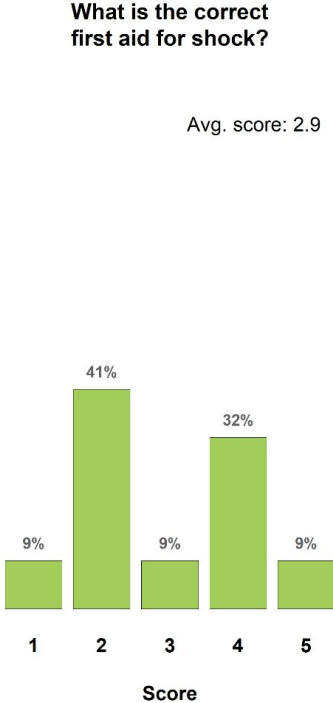
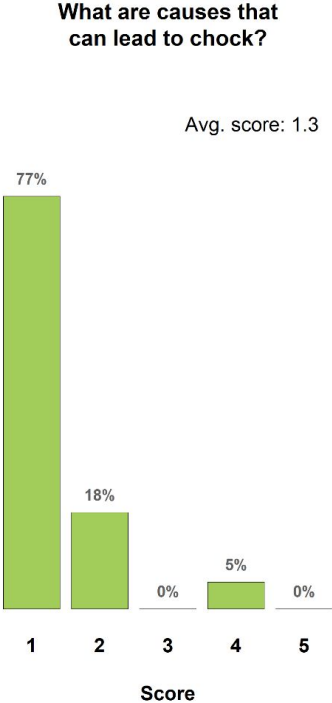
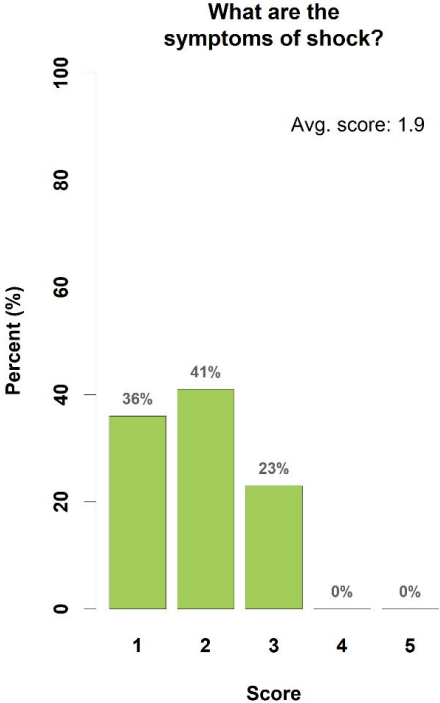


# Results (3 of 6)

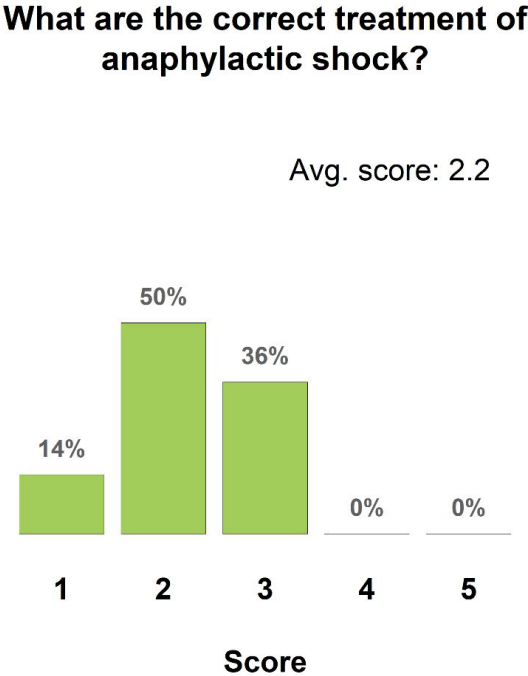
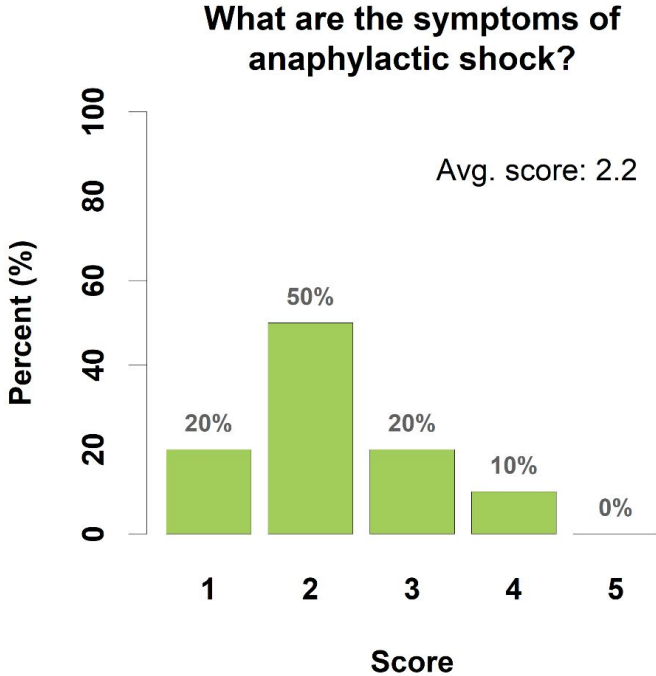
## Little Anne QCPR data - overall score



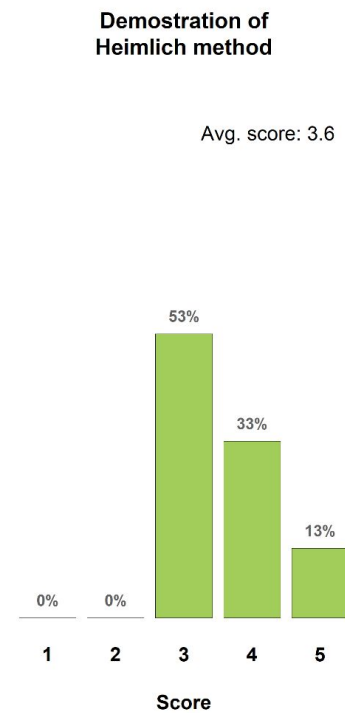
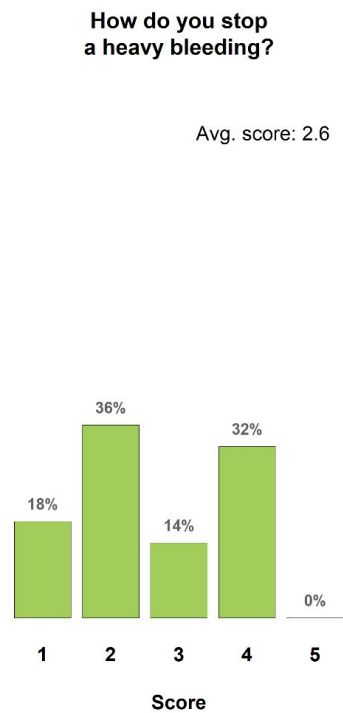
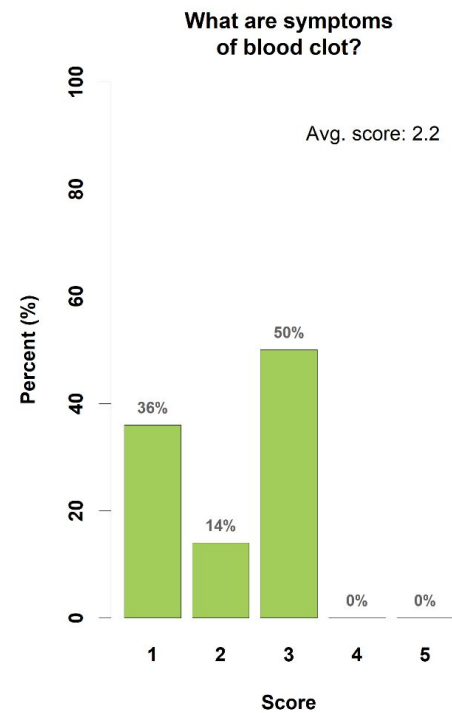
# Results (4 of 6)



# Results (5 of 6)



# Results (6 of 6)



# Conclusion

The retention of first aid training (to “above average layperson”) has decreased significantly after a year - for the tested persons.

# Limitations of the study

- ❑ The tests have been conducted in “protected surroundings” (lecture hall) - and not “real life situations”.
- ❑ Our data does not support any kind of generalization.



# Outlook

- ❑ More data is needed.
- ❑ We invite everyone who are interested in sustained first aid skills to participate in this global data collection and analysis program.
- ❑ The service is free-of-charge.
- ❑ Data and results will be shared publicly and in an anonymized form.
- ❑ We can also help organisations with tailored and cost-efficient test programs.

This presentation can be downloaded from: [www.q2m2.com/references](http://www.q2m2.com/references)