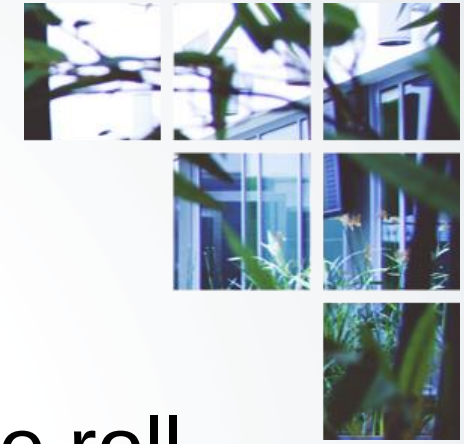


# Kiirabialaste kvaliteediindikaatorite roll kiirabiteenuse efektiivsuse hindamisel

Arkadi Popov
Põhja-Eesti Regionaalhaigla Kiirabikeskus

# Miks peab sellest rääkima?

Varsti on

**Kiirabi avalik konkurss!**

# Kvaliteedi definitsioon

The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.

**Kvaliteedi dimensioonid**

- Ohutus
- Efektiivsus
- Patsiendikesksus
- Õigeaegsus
- Tõhusus
- Õiglus

Institute of Medicine, Emergency Medical Services at a Crossroads
The National Academies Press, Washington, DC, USA, 2006.

## ÄRI

- Kvaliteetne lõppprodukt
- Kliendi rahulolu

## KIIRABI

- Kvaliteetne kiirabiteenus
- Patsiendi rahulolu

# Kvaliteedimõõdik = kvaliteediindikaator

- Tõenduspõhine
- Suunatud suremuse ja invalidiseerumise ärahoidmisele
- Rahvusvaheline ja üleriigiline
- Lakooniline ja mõõdetav
- Võimaldab võrdlevat ja dünaamilist analüüsi

Future of Emergency Care Series

Emergency Medical Services
At the Crossroads

Committee on the Future of Emergency Care in the United States Health System

Board on Health Care Services

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

THE NATIONAL ACADEMIES PRESS
Washington, D.C.
www.nap.edu

**“Evidence based performance indicators that can be nationally standardized so that statewide and national comparisons can be made”**

**USA, 2006**

ANESTESIOLOOGIAKLINIK

Regionaalhaigla

# EMS System Performance Indicators:

**Structure**

**Process**

**Outcome**

| Indicator Type | Definitions | EMS systems PI examples | Advantages | Limitations |
|---|---|---|---|---|
| Structure | Characteristics of the different components of the system | (i) Facilities<br>(ii) Equipment<br>(iii) Staffing<br>(iv) Knowledge base of providers<br>(v) Credentials<br>(vi) Deployment<br>(vii) Response times | (i) Standardized structural data allows for comparison between systems structure | (i) Indirect measure of quality<br>(ii) Difficult to relate to outcome<br>(iii) Problematic with EMS system design diversity |
| Process | Combination or sequence of steps in patient care intended to improve patient outcome | (i) Medical protocols<br>(ii) Medication administration<br>(iii) Transport to appropriate facility | (i) Direct measure of quality<br>(ii) Specific input for improvement<br>(iii) Easy to understand and to evaluate<br>(iv) Does not require Risk adjustment<br>(v) Easy data collection<br>(vi) Best for technical skill evaluation<br>(vii) Short-term evaluation | (i) Strict criteria for generalization<br>(ii) Can become very complex with more advanced care (i.e., complex processes) |
| Outcome | Changes in health and well-being related to antecedent care 6 *D's**<br>(i) *Death*<br>(ii) *Disease*<br>(iii) *Disability*<br>(iv) *Discomfort*<br>(v) *Dissatisfaction*<br>(vi) *Destitution* | (i) Out of hospital cardiac arrest survival<br>(ii) Patient Satisfaction<br>(iii) Improvement in pain score | (i) Easy to understand<br>(ii) Feedback about all aspects of care provided<br>(iii) Long-term outcomes | (i) Indirect measure of quality<br>(ii) Requires Risk adjustment and standardization of data collection |

L. Moore, “Measuring quality and effectiveness of prehospital EMS,” Prehospital Emergency Care, vol. 3, no. 4, pp. 325–331, 1999.

# Kvaliteediindikaatorid: Struktuur

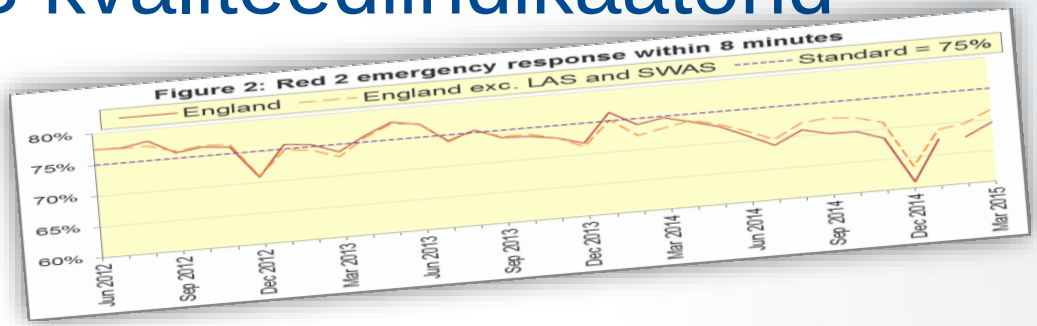
SoM määrus 131, Halduslepingu Lisa 2

Reageerimise aeg:

- 1 kategooria kutse – 9 min (90%) (USA)
- Äkksurm – 4 min (USA)
- Äge koronaarsündroom – 8 min (UK)
- Charlie-Delta – 10-20 min (Eesti)

# NHS England EMS kvaliteediindikaatorid

**Süsteemsed indikaatorid**




- Aeg (8 ja 19 min)
- Häirekeskuse töö analüüs:
  - kutsete vastuvõtmise kiirus, maht, nõustamine, korduvad kontaktid
- Hospitaliseerimine
- Korduvad visiidid

| Trust | Item | Month | From | To |
|---|---|---|---|---|
| South Western | 8 minute Red 1 response | Jan 2015 | 73.4% | 74.9% |
| | 8 minute Red 2 response | Feb 2015 | 61.6% | 65.7% |
| | | Dec 2014 | 71.4% | 69.4% |
| South East | 8 minute Red 2 response | Jan 2015 | 75.3% | 69.9% |
| | | Feb 2015 | 74.1% | 69.5% |
| | 19 minute Category A response | Jan 2015 | 96.2% | 95.0% |
| | | Feb 2015 | 95.3% | 94.3% |
| East of England | Re-contact after resolution on the telephone | Apr 2014 | 10.0% | 11.2% |
| | | Jun 2014 | 10.0% | 11.8% |
| | | Jul 2014 | 9.9% | 11.4% |
| | | Aug 2014 | 9.8% | 11.5% |
| | | Sep 2014 | 10.0% | 11.6% |
| West Midlands | Re-contact after discharge on scene | Apr 2014 | 1.9% | 5.6% |

# Treating the clock and not the patient: ambulance response times and risk

PDF

L Price

Correspondence to: MsL Price, Research and Development Support Unit, Peninsula Medical School, Plymouth, Devon, PL6 8BX, UK; linnieprice@lycos.co.uk

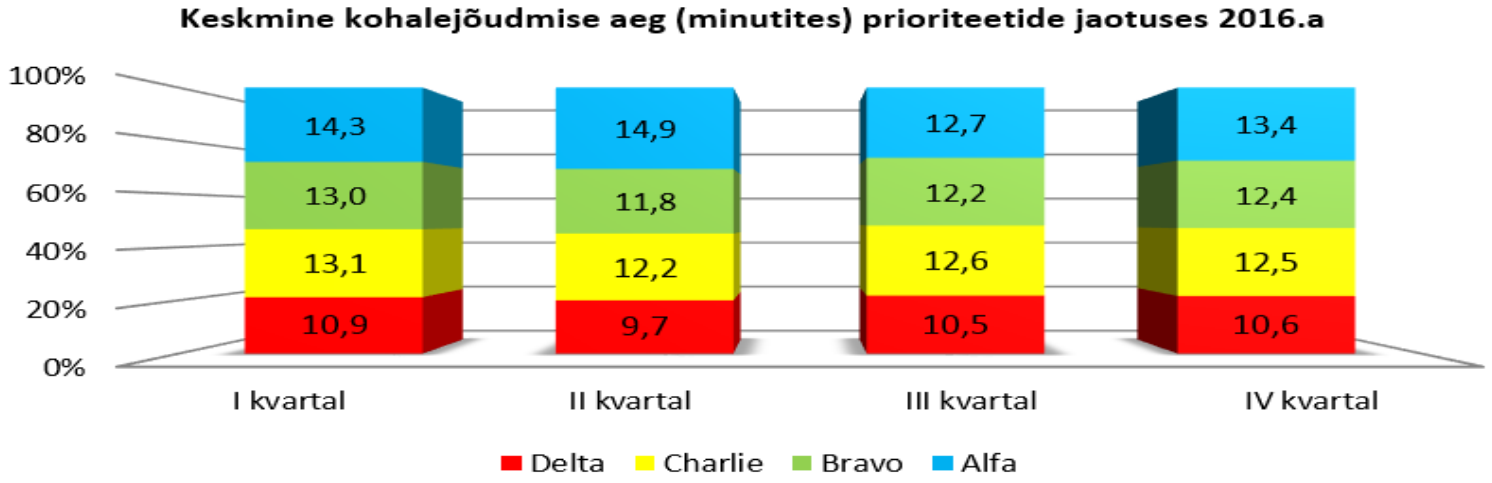
## Abstract

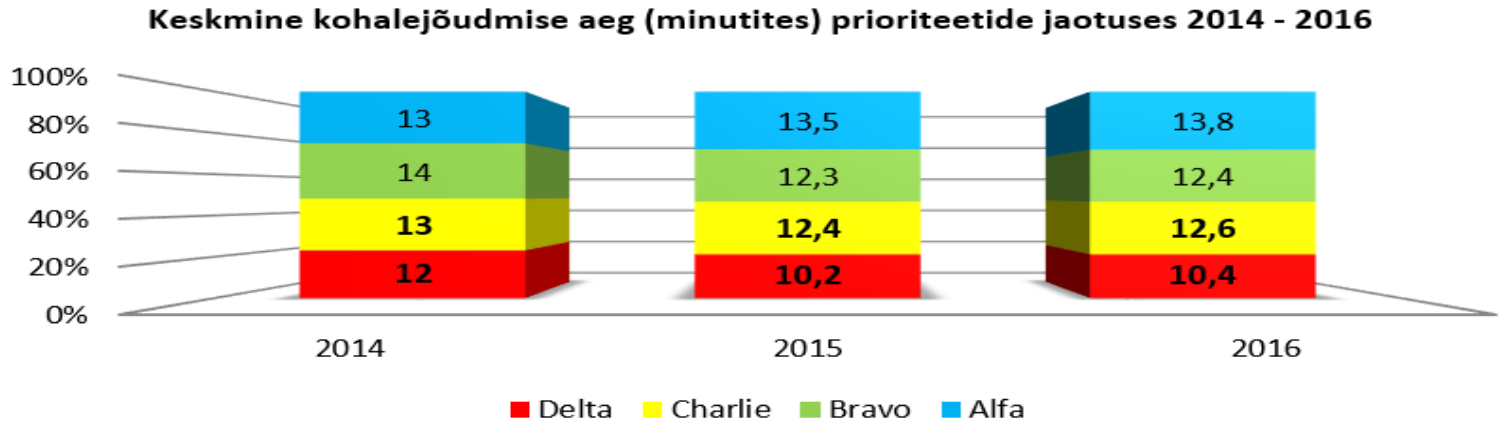
**Background:** In a qualitative study of paramedics' attitudes to pre-hospital thrombolysis (PHT), the government target that

**Conclusions:** The results of this study suggest that the 8 minute response time is not evidence based and is putting patients and ambulance crews at risk. There is a need for less simplistic quality indicators which recognise that there are many stages between a patient's call for help and safe arrival in hospital.

**Results:** The paramedics argued that response time targets are inadequate as a performance indicator. They dominate ambulance service culture and practice at the expense of other quality indicators and are vulnerable to "fiddling". The targets can conflict with other quality indicators such as timely administration of PHT and rapid transport of patients to hospital. The strategies introduced to meet the targets can be detrimental to patient care and also have adverse effects on the health, safety, wellbeing, and morale of paramedics.

**Conclusions:** The results of this study suggest that the 8 minute response time is not evidence based and is putting patients and ambulance crews at risk. There is a need for less simplistic quality indicators which recognise that there are many stages between a patient's call for help and safe arrival in hospital.


Keskmine kohalejõudmise aeg (minutites) prioriteetide jaotuses 2016.a
100%
80%
60%
40%
20%
0%
14,3
13,0
13,1
10,9
14,9
11,8
12,2
9,7
12,7
12,2
12,6
10,5
13,4
12,4
12,5
10,6
I kvartal
II kvartal
III kvartal
IV kvartal
Delta
Charlie
Bravo
Alfa


Keskmine kohalejõudmise aeg (minutites) prioriteetide jaotuses 2014 - 2016
100%
80%
60%
40%
20%
0%
13
14
13
12
13,5
12,3
12,4
10,2
13,8
12,4
12,6
10,4
2014
2015
2016
Delta
Charlie
Bravo
Alfa

# KONTROLLKUTSED 2016

- **45 kontrollkutset: DELTA - 91%, CHARLIE - 9%**
- **DELTA: keskmine väljasõiduaeg 1,9 min, mediaan 1,5 min**
- **Kontrollnimekirja täitmise kontroll:**
  - I liige 82%, II liige 91%, III liige 93,3%
- **Defibrillaatori kontroll valve alguses (väljatrükk) 91,1%**
- **Eriarvestuslikud ravimite vastuvõtmine 84,4%**
- **Õde-brigaadijuht oskas näidata kaks varustuses olevat eset 96,8%**
- **II liige oskas näidata kaks varustuses olevat eset 97%**

# Kvaliteediindikaatorid: Protsess

**A process is the repeatable sequence of actions used across all EMS levels to produce good patient outcome.**

L. Moore, “Measuring quality and effectiveness of prehospital EMS,” Prehospital Emergency Care, vol. 3, no. 4, pp. 325–331, 1999.

Andmed patsiendi teenindamise kohta - konkreetsed toimingud, mida kiirabibrigaadid teostavad kutsetel

- Diagnostilised ja raviprotseduurid
- Kiirabikutse teenindamise aeg
- Vastavus ravijuhistele ja tegevusjuhenditele

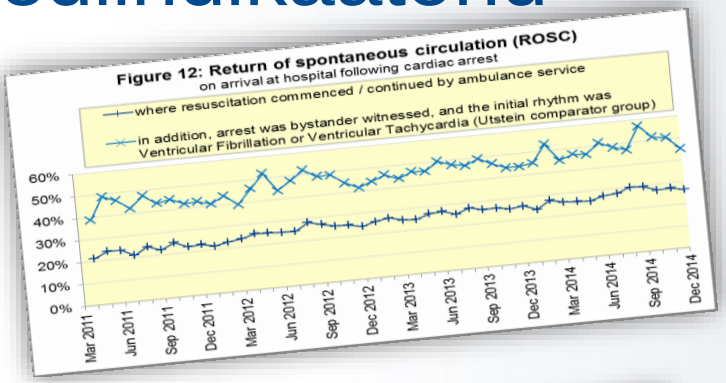
**Otseselt peegeldavad kvaliteeti, hästi mõõdetavad, suunatud konkreetsete probleemide parandamisele**

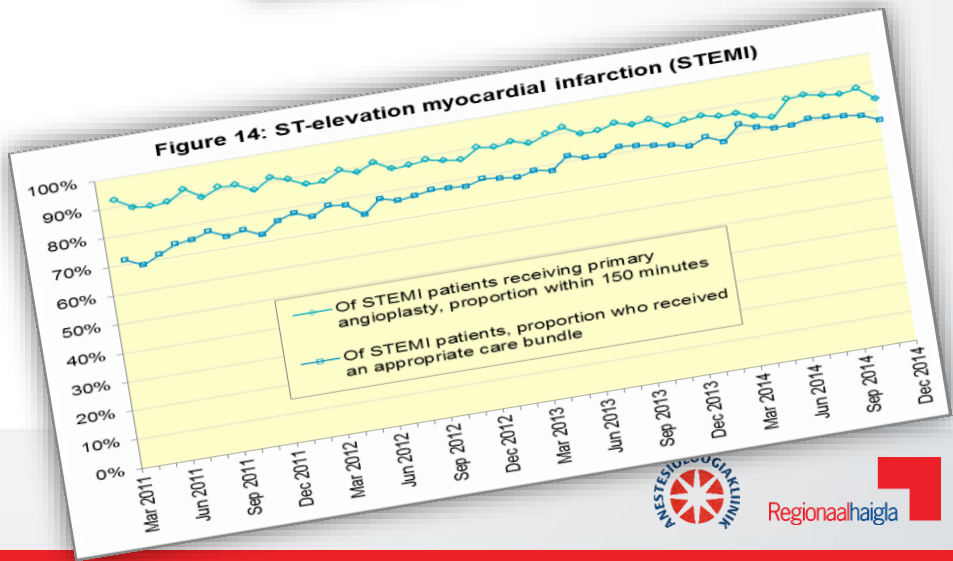
Mazen J. El Sayed. Measuring Quality in Emergency Medical Services: A Review of Clinical Performance Indicators, 2011

# NHS England kiirabi kvaliteediindikaatorid

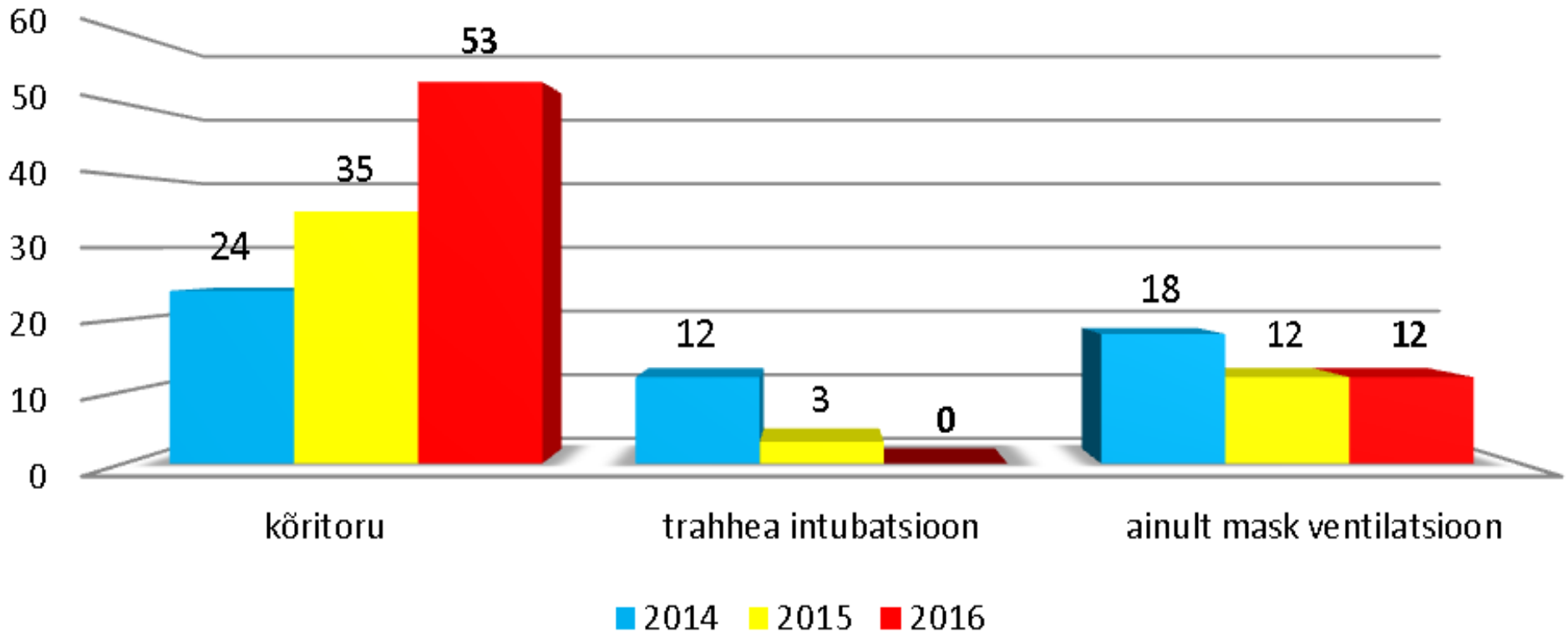
## Kliinilised indikaatorid

- STEMI: EKG + PCI 150 min
- Insult: FAST + hosp. <60 min



# Hingamisteede kaitse elustamisel 2014- 2016




**Kõritoru kasutamine: 81,5% (2015 :70%)**

PERH kiirabikeskus, 2016

Anestesiioloogiaklinik

Regionaalhaigla

# Peaajuinfarkti trombolüüs: AEG

**Tuvastatud probleemid:**

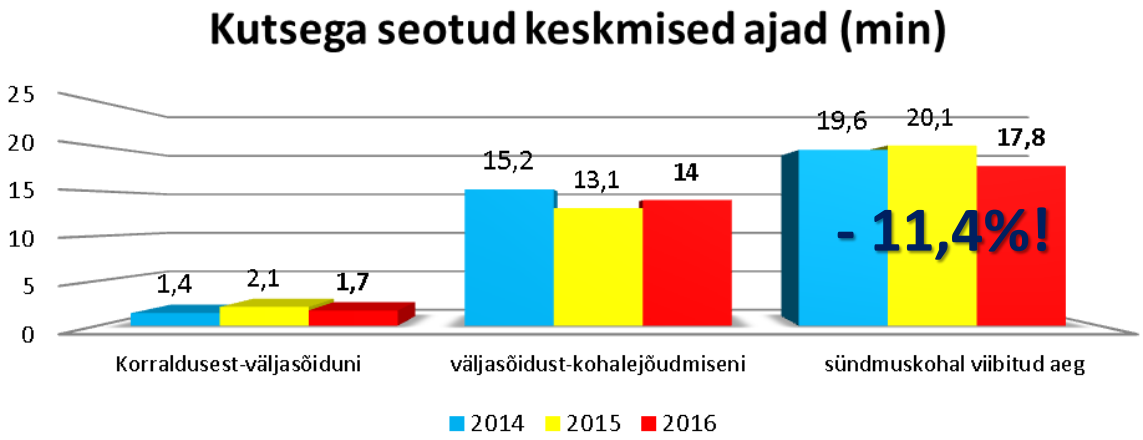
**Aeg sündmuskohal 57% väljakutsete puhul oli üldtunnustatud standartidest pikem**

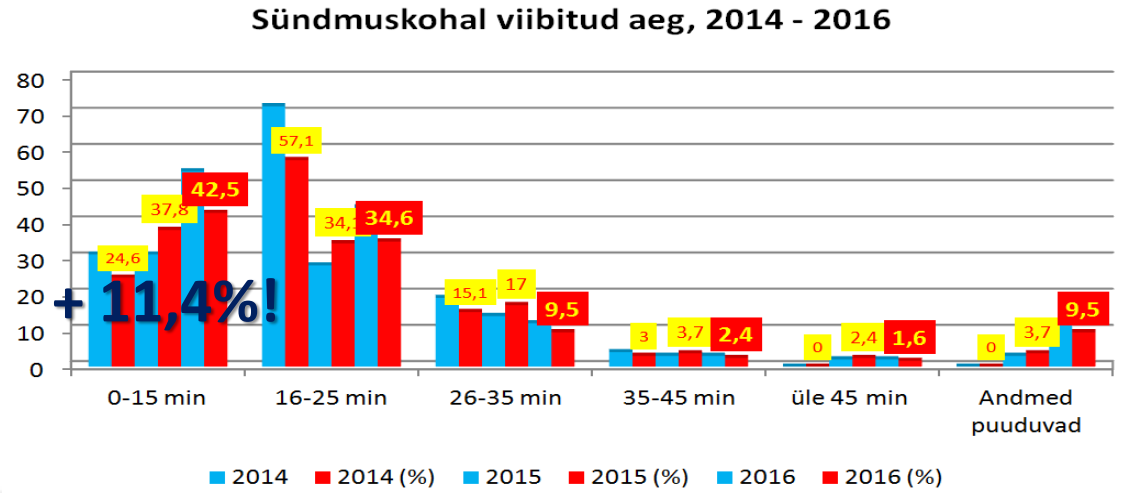
**(2015: 62%; 2014 a: 75,4%)**

**POSITIIVNE:**

**Vähenes sündmuskohal viibitud aeg**

**0-15 min % kõrgem**

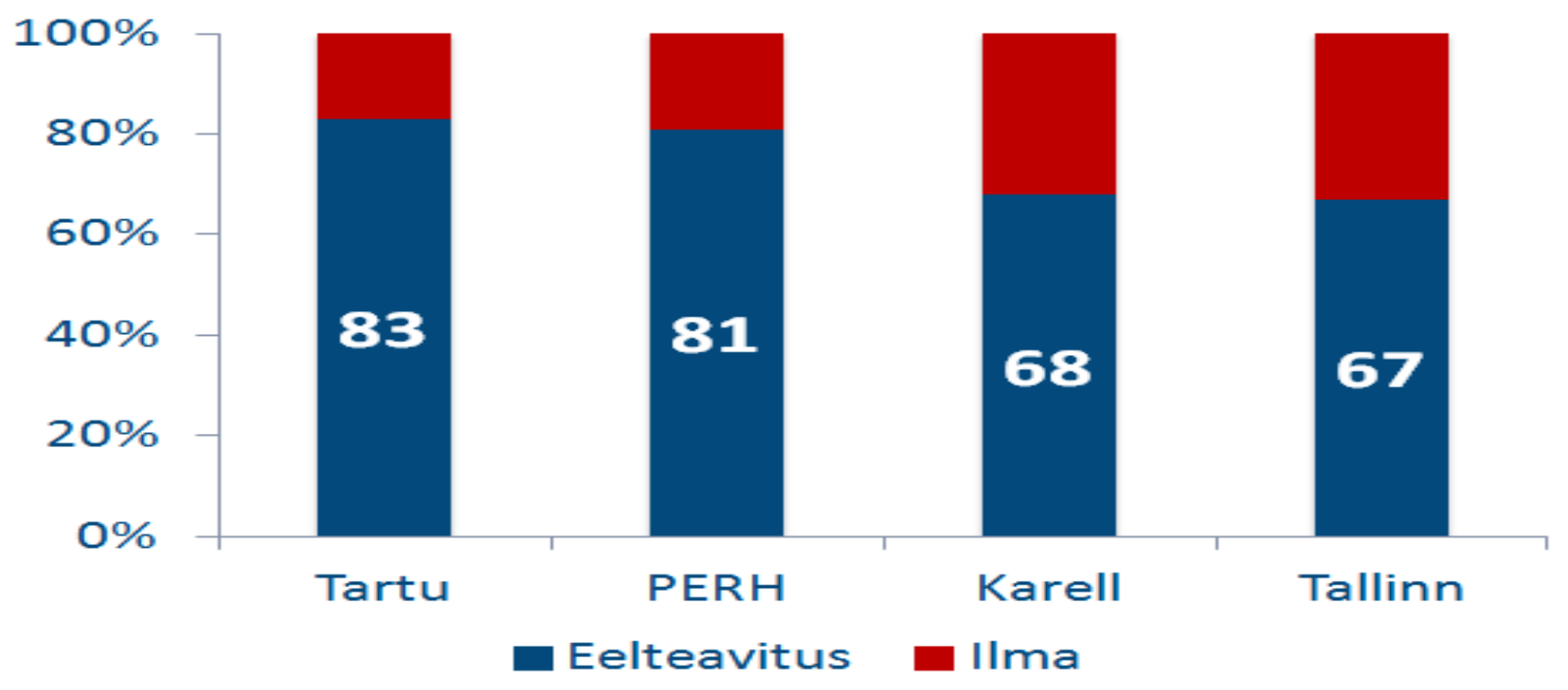



PERH kiirabikeskus, 2016

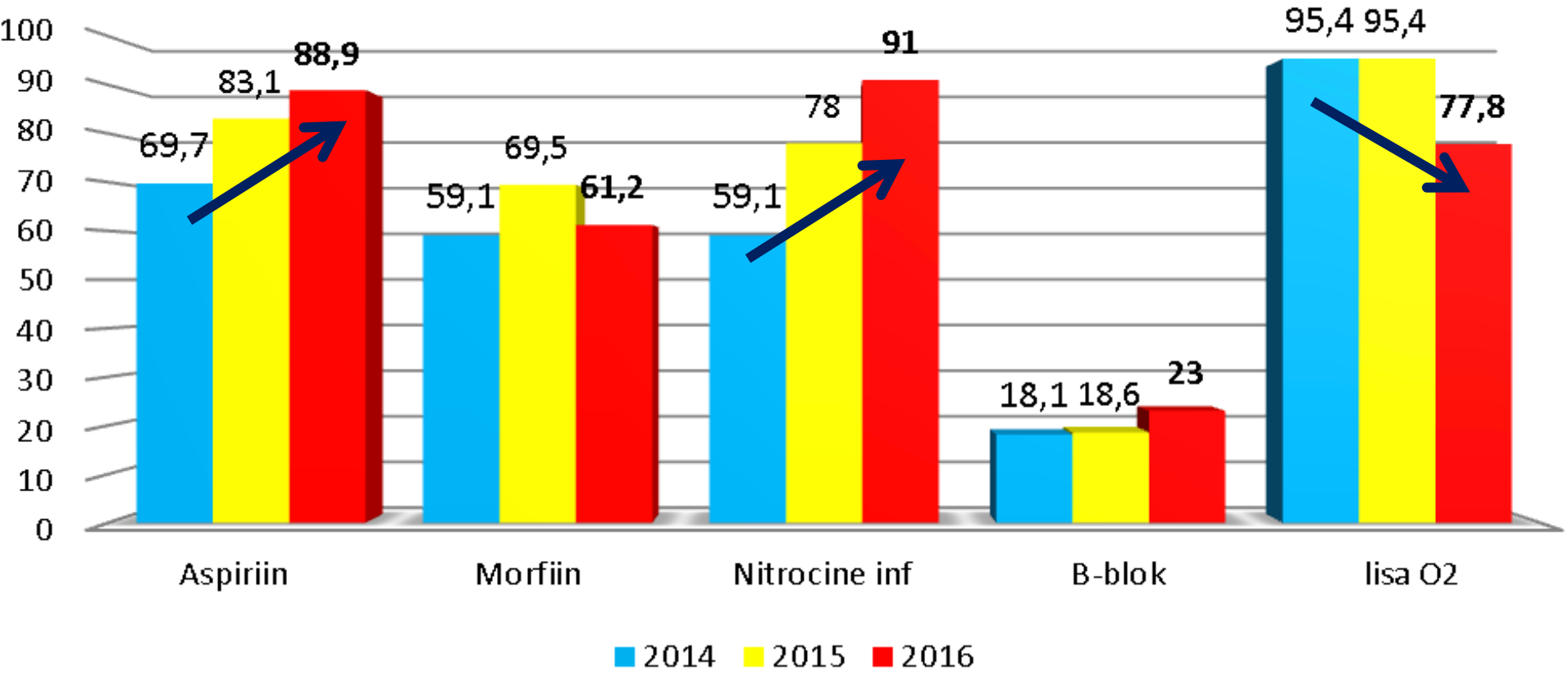
Anestesiioloogiaklinik
Regionaalhaigla

# Eelteavitus ajuinfarkti trombolüüsi patsiendist



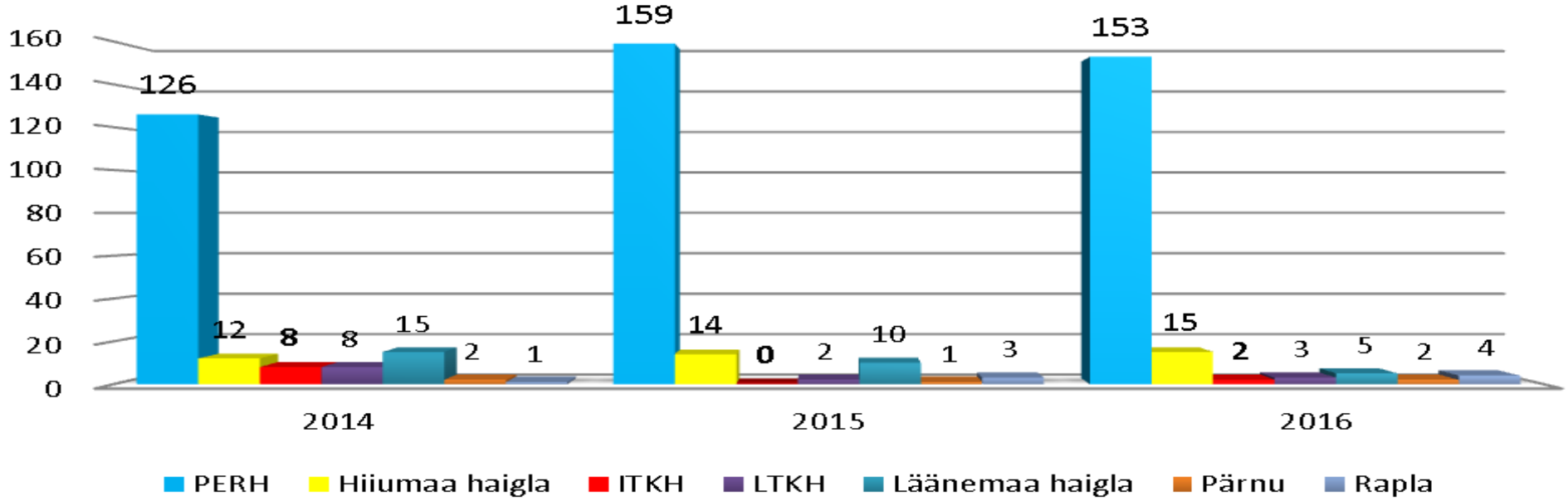

S. Schneider, 2016

# STEMI ravialgoritmi jälgimine 2014-2016




PERH kiirabikeskus, 2016

# ÄKS hospitaliseerimise haiglad




- Esialgu kiirabi poolt maakonnahaiglatesse hospitaliseeritud patsientidest kümme (10) suunati PERHi:
  - 8-Hiiumaa haiglast
  - 2- Läänemaa haiglast

# Tegevusjuhendid

**Kiirabialane tegevusjuhend: „Trombolüüsiaknas patsiendi käsitlus: kiirabi väljakutse "INSULT/HALVATUS" (tüüpjuhtum 36)"**
Väljakutsele võetav kiirabivarustus: ravimkohver (sisaldab S-toru), Corpuls (monitor + patsiendimoodul), hapnikuballoon, pehme raam, tekk. Kiirabiraam on valmisolekus autost väljas.

**TEGEVUSED kuni transpordi alguseni**
Ajakulu: 15 min

- A: HINGAMISTEEDE KONTROLL
- B: HINGAMINE
- C: VERERINGE
- D: NEUROLOOGILINE STAATUS
- AEG sümptomite algusest:

**Brigaadiliige I**
Kokku 15 min

- Teadvuse hindamine (AVPU) 10 sek
- HT kontroll (+S-toru vaj.) 20 sek

**Brigaadiliige II**
Kokku 15 min

- Assist. HT avamisel ja aspiratsioon 60 sek
- EKG monitooring 30 sek
- Temperatuuri monitooring 10 sek
- AVR monitooring 30 sek
- Veenitee rajamine (maks 2 katset) ja tilkinfusioon 100 sek
- VS analüüs 30 sek
- Seisundi stabiliseerimine 240 sek
- Raamitransport autosse 400 sek

**Brigaadiliige III**
Kokku 15 min

- SpO2 monitooring 30 sek
- O2 mask, 5 l/min 30 sek
- Isikuandmed ja ID-kaart 60 sek
- Sugulase telelefoni dokumenteerimine 60 sek
- Näitajate dokumenteerimine 120 sek
- Asetamine kanderaamile 80 sek
- Transpordi planeerimine 120 sek
- Raamitransport autosse 400 sek

*Transport haiglasse:*
*Maksimaalselt kiire transport alarmseadmete rakendamisega – Liige 3*
*Monitooring transpordi ajal (EKG, SpO2, AVR) – Liige 2, 1*
*Patsiendi üleandmine EMOs:*
*MIST vastuvõtvale arstile – Liige 1*
*Abistamine analüüside võtmisel tiraažis – Liige 2*
*Transport CT-uuringule kiirabiraamil – Liige 3, 2, 1*
*Patsiendi paigutamine CT-lauale – Liige 3, 2, 1*

**Kiirabialane tegevusjuhend: „STEMI patsiendi käsitlus: kiirabi väljakutse "VALU RINNUS" (tüüpjuhtum 34)"**
Väljakutsele võetav kiirabivarustus: ravimkohver (sisaldab S-toru), Corpuls (monitor + patsiendimoodul), hapnikuballoon, 1 perfuusor, pehme raam, tekk. Kiirabiraam on valmisolekus autost väljas.

**TEGEVUSED kuni transpordi alguseni**
Ajakulu: 15 min

- A: HINGAMISTEEDE KONTROLL
- B: HINGAMINE
- C: VERERINGE
- D: NEUROLOOGILINE STAATUS
- **Äge Koronaarsündroomi tunnuste tuvastamine:** Valu rinnus + külm higi, sümptomite tekkimise kellaaeg, MIC anamnees
- LOGISTIKA: PERHi telearsti valvetelefon 58866105: Harjumaa, Raplamaa, Läänemaa; Kärdla 91 - Hiiumaa haigla valvearst
- KÕNE HAIGLASSE: sümptomid, EKG kirjeldus, orienteeruv saabumise kellaaeg, ravi ordineerimine, patsiendi IK
- Seisundi stabiliseerimine
- Transport

**Brigaadiliige I**
Kokku 15 min

- Teadvuse hindamine ja HT kontroll 20 sek
- Esmase anamneesi võtmine 90 sek
- Hingamissagedus 20 sek
- Kopsude auskultatsioon 30 sek
- EKG hindamine ja telemeditsiiniarsti konsultatsioon 100 sek
- Seisundi stabiliseerimine 240 sek
- Raamitransport autosse 400 sek

**Brigaadiliige II**
Kokku 15 min

- EKG registreerimine 30 sek
- AVR monitooring 30 sek
- EKG registreerimine 60 sek
- Temperatuuri monitooring 10 sek
- Veenitee rajamine (maks 2 katset) ja tilkinfusioon 100 sek
- VS analüüs 30 sek
- Seisundi stabiliseerimine 240 sek
- Raamitransport autosse 400 sek

**Brigaadiliige III**
Kokku 15 min

- SpO2 monitooring 30 sek
- O2 mask, 5 l/min 30 sek
- Isikuandmed ja ID-kaart
- Sugulase telelefoni dokumenteerimine 60 sek
- Näitajate dokumenteerimine 120 sek
- Asetamine kanderaamile 80 sek
- Transpordi planeerimine 120 sek
- Raamitransport autosse 400 sek

*Šoki tunnused puuduvad:*
*Aspiriin 250 mg p/o (kui ei ole varem saanud)*
*Nitroglütseriin 0,04 mg s/l + iv perfuusoriga 1 mg/ml alates 0,5 ml/t*
*Morfiin 2,5 mg iv (vajadusel korduvalt kuni maks. annuseni 10 mg)*
*Šoki tunnused olemas:*
*Eluohtlikke rütmihäirete ravi (telemeditsiiniarsti konsultatsioon): SEKV, EKS?*
*Aspiriin 250 mg p/o (kui ei ole varem saanud)*
*Infusioon ja vasopressorid (iv noradrenaliin perfuusoriga 0,1mg/ml alates 3 ml/t)*
*Fentanüül 0,05 – 0,1 mcg/kg iv*

*Transport haiglasse:*
*Maksimaalselt kiire transport alarmseadmete rakendamisega – Liige 3*
*Monitooring transpordi ajal (EKG, SpO2, AVR) – Liige 2, 1*
*Patsiendi üleandmine EMOs:*
*MIST vastuvõtvale arstile – Liige 1*
*Transport Kardiointensiivravi osakonda kiirabiraamil – Liige 3, 2, 1*
*Patsiendi ümbertõstmine – Liige 3, 2, 1*



ANESTESIOLOOGIAKLIINIK
Regionaalhaigla

# Kvaliteediindikaatorid: Ravitulemused

**Andmete interpreteerimiseks on vajalikud täpsed riskide korrektsioon, mõistete standartiseerimine, eelnev teadustöö antud teemal.**

**Peab arvestama 4 andmete varieerumise põhjusega:**

1. **Patsientide erisused**
2. **Mõõtmiste erisused**
3. **Juhus**
4. **Ravikvaliteedi erisused**

**Raskused erinevate ravietappide mõju eristamisega (kiirabi/EMO/…)**

**6D`s**

- **Death - elulemus**
- **Disease – kahjustatud füsioloogia**
- **Disability - puude**
- **Discomfort – düüskomfordi levendamine**
- **Dissatisfaction - rahulolu**
- **Destitution – kuluefektiivsus**

R. F. Maio, H. G. Garrison, D. W. Spaire et al., “Emergency medical services outcomes project I (EMSOP I): prioritizing conditions for outcomes research,” Annals of Emergency Medicine, vol. 33, no. 4, pp. 423–432, 1999.

# EMERGENCY MEDICAL SERVICES PERFORMANCE MEASURES

## RECOMMENDED ATTRIBUTES AND INDICATORS FOR SYSTEM AND SERVICE PERFORMANCE

December 2009

NHTSA

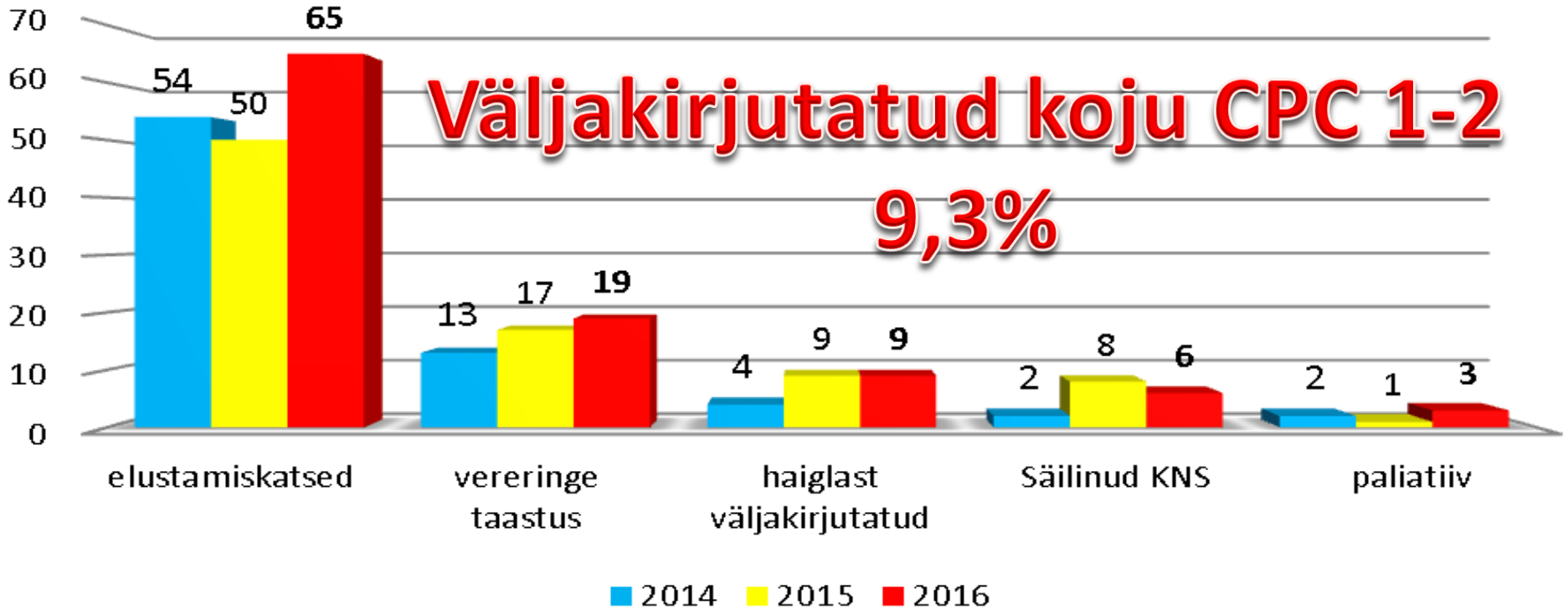
www.nhtsa.gov

| Measure Type and ID Number | Measure |
|---|---|
| Attribute 1.1(S) | Emergency Medical Dispatch Type |
| Attribute 1.2(S) | Emergency Medical Dispatch Impact on Response Mode |
| Attribute 1.3(S) | Emergency Medical Dispatch Impact on Response Level |
| Indicator 2.0(HR) INTERIM | Annual Turnover Rate |
| Indicators 3.1(CC) and 3.2(CC) | **3.1**- Average Defibrillation Time<br>**3.2**- 90th Percentile Defibrillation Time |
| Indicators 4.1(CC) and 4.2(CC) | **4.1**- Average Initial Rhythm Analysis Time<br>**4.2**- 90th Percentile Initial Rhythm Analysis Time |
| Indicator 5(CC) INTERIM | Major Trauma Triage to Trauma Center Rate |
| Indicators 6.1(CC), 6.2(CC), and 6.3(CC) | **6.1**- Pain Relief Rate<br>**6.2**- Pain Worsened Rate<br>**6.3**- Pain Unchanged Rate |
| Indicator 6.4 (CC) PARKED | Pain Intervention Rate |
| Indicator 7(CC) | 12 Lead Performance Rate |
| Indicator 8(CC) | Aspirin Administration for Chest Pain/Discomfort Rate |
| Indicator 9(CC) INTERIM | ST Elevation Myocardial Infarction (STEMI) Triage to Specialty Center Rate |
| Indicators 10.1(R) and 10.2(R) | **10.1**- Mean Emergency Patient Response Interval<br>**10.2**- 90th Percentile Emergency Response Interval |
| Indicators 10.3(R) and 10.4(R) | **10.3**- Mean Emergency Scene Interval<br>**10.4**- 90th Percentile Emergency Scene Interval |
| Indicators 10.5(R) and 10.6 (R) | **10.5**- Mean Emergency Transport Interval<br>**10.6**- 90th Percentile Emergency Transport Interval |
| Indicator 11(F) PARKED | Per Capita Agency Operating Expense |
| Indicator 12(Q) PARKED | Patient Care Satisfaction Rate |
| Indicator 13(Q) | Patient Care Satisfaction Survey Rate |
| Indicator 14(Q) | Rate of Appropriate Oxygen Use |
| Indicator 15(Q) | Undetected Esophageal Intubation Rate |
| Indicator 16.1(Q) | Delay-Causing Crash Rate per 1,000 EMS Responses |
| Indicator 16.2(Q) | EMS Crash Rate per 100,000 Fleet Miles |
| Indicators 16.3(Q) and 16.4(Q) | **16.3**- EMS Crash Injury Rate per 100,000 Fleet Miles<br>**16.4**- EMS Crash Death Rate per 100,000 Fleet Miles |
| Attributes 17.1(CD) and 17.2(CD) | **17.1**- Call Complaint Distribution<br>**17.2**- Call Complaint Rate |
| Indicators 18.1(CC) and 18.2(CC) | **18.1**- EMS Cardiac Arrest Survival Rate to ED Discharge<br>**18.2**- EMS Cardiac Arrest Survival Rate to Hospital Discharge |

| | Elulemus (CPC 1,2) % | Kohandatud OR (95% uv) |
|---|---|---|
| **Vereringeseiskuse vorm** | | |
| Asüstoolia | 16,9 | 1,00 |
| **VT/VF** | **49,7** | **4,25 (2,83-6,37)** |
| **PEA** | **10,2** | **0,42 (0,20-0,87)** |
| **Taaselustamise kestvus** | | |
| ≤ 10 min | 61,8 | 1,00 |
| **10-20 min** | **34,5** | **0,32 (0,21-0,47)** |
| **21-30 min** | **18,1** | **0,09 (0,05-0,16)** |
| **> 30 min** | **17,8** | **0,12 (0,08-0,09)** |

A. Sipria, 2016

# Elustamiskatsete tulemused

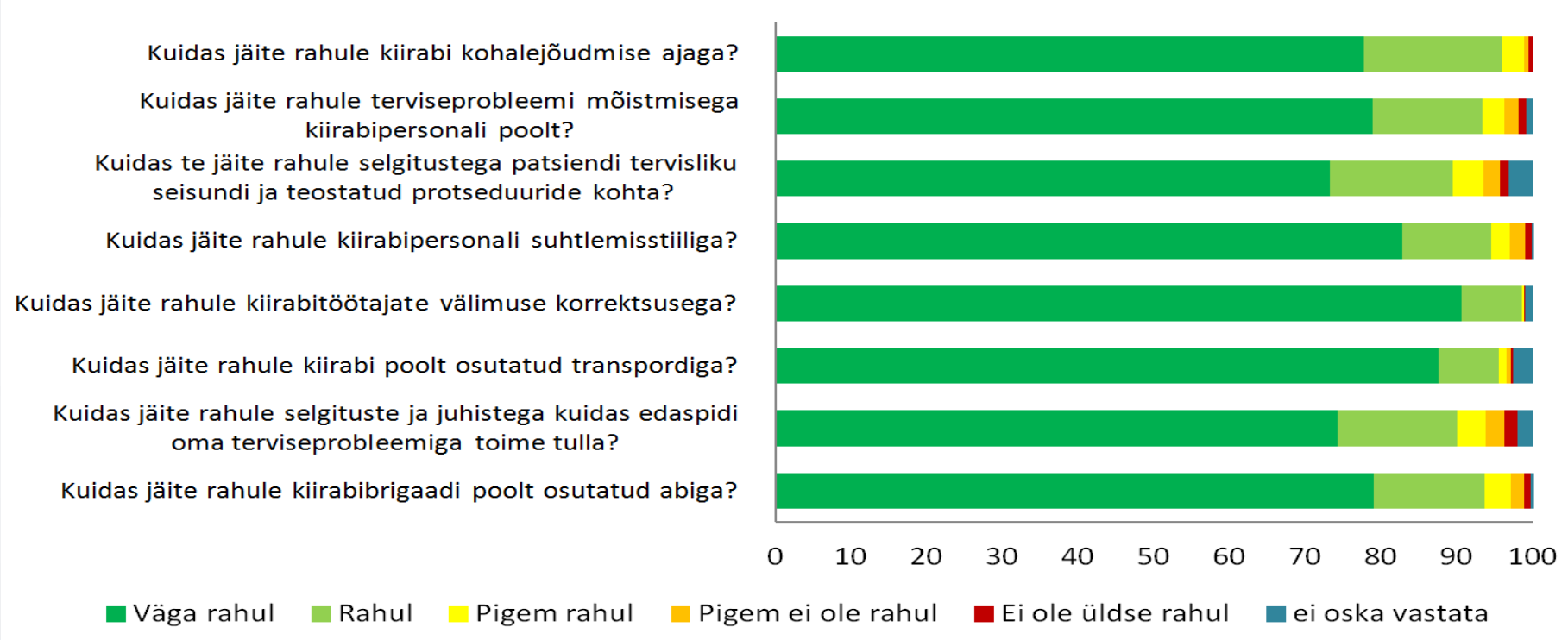



**Väljakirjutatud koju CPC 1-2**

**9,3%**

**CPC1-2 - 2015: 16%; 2014: 6,1%**

# Regionaalhaigla kiirabiosakonna patsientide rahulolu-uuring, 01.03.-31.03.2017




**Küsimustikule vastas 1116 kiirabikutsujat:**
**451 patsienti-40,4%, 577 sugulast-51,7%, 88 muud isikud-7,9%**

Regionaalhaigla

# US VS UK

| US clinical performance indicators* | | | | | | |
|---|---|---|---|---|---|---|
| Clinical condition | ST Elevation Myocardial infarction (STEMI) | Pulmonary Edema | Asthma | Seizure | Trauma | Cardiac arrest |
| Indicators or bundle elements | (1) Aspirin<br>(2) 12 lead Electrocardio-graph (ECG)<br>(3) Direct transport to percutaneous cardiac intervention (PCI) interval from ECG to balloon <90 minutes | (1) Nitroglycerin<br>(2) Noninvasive positive pressure ventilation | (1) $\beta_2$ agonist administration | (1) Blood Sugar measurement<br>(2) Administration of a benzodiazepine | (1) Entrapment time <10 minutes<br>(2) Direct transport to trauma for patients meeting criteria | (1) Response interval <5 min for basic CPR and Automated external defibrillators (AEDs) |
| Outcome | NNT = 15<br>Harm avoided: A stroke, 2nd myocardial infarction, or death | NNT = 6<br>Harm avoided: need for an endotracheal intubation | Not Specified | NNT = 4<br>Harm avoided: persistent seizure activity | NNT = 3 or 11 depending on criteria used Harm avoided: one death | NNT = 8<br>Harm avoided: one death |

| UK clinical performance indicators# | | | | | | |
|---|---|---|---|---|---|---|
| Clinical condition | STEMI | Stroke/TIA | Asthma | Hypoglycemia | Trauma | Cardiac arrest |
| Indicators or bundle elements | (1) Aspirin<br>(2) Nitroglycerin<br>(3) Recording pain score (before and after treatment)<br>(4) Pain medication<br>(5) Transfer targets for thrombolysis/PCI | (1) Recording of Face Arm Speech Test (FAST)<br>(2) Recording of blood sugar<br>(3) Recording of blood pressure | (1) Recording of respiratory rate<br>(2) Recording of Peak Expiratory Flow Rate (PEFR)<br>(3) Recording of $SpO_2$<br>(4) $\beta_2$ agonist<br>(5) Oxygen | (1) Recording of blood glucose before treatment<br>(2) Recording of blood glucose after treatment<br>(3) Recording treatment<br>(4) Direct referral to appropriate health professional | Pilot indicators available only for patients with severe trauma (Glasgow Coma Score, GCS < 8)<br>(1) Recording of blood pressure<br>(2) Recording of respiratory rate<br>(3) Recording of SpO2<br>(4) Recording of pupil reaction | (1) Return of Spontaneous circulation (ROSC) on arrival to hospital<br>(2) Presence of defibrillator on scene<br>(3) ALS provider in attendance<br>(4) Call to scene response ≤4 min |
| Outcome | Improved assessment and management of STEMI with increased survival | Improved assessment and management of stroke | Improved assessment and management of asthma | Improved assessment and management of hypoglycemia | Not specified | Improved response to and survival from cardiac arrest |

J. B. Myers, C. M. Slovis, M. Eckstein et al., “Evidence-based performance measures for emergency medical services systems: a model for expanded EMS benchmarking,” Prehospital Emergency Care, vol. 12, no. 2, pp. 141–151, 2008.
The Department of Health. Office of Strategic Health Authorities. Emergency Services Review: A comparative review of international ambulance service best practice, 2009,

# Kumb kvaliteedianalüüsi strateegia on kasutusel Teie kiirabiasutuses? ☺

| | |
|---|---|
| “Pofigistlik” | • Kvaliteedi hindamist ei toimu<br>• Loodusliku valiku printsiip |
| Bürokraatlik | • “Töö dokumentidega”, ehk<br>• Kiirabikaartide täitmise kontroll |
| Formalistlik | • Toimub rutiinne statistiline analüüs<br>• Järeldusi ja parendusi ei tehta |
| Tõenduspõhine | • Tõenduspõhiste kvaliteediindikaatorite analüüs<br>• Sihipärane tegevus kvaliteedi parendamiseks |

# Tänan tähelepanu eest!

Traditsiooniliselt, eriline tänu
PERHi kiirabiosakonna õendusjuhile,
Marianna Ležepjokovale

Regionaalhaigla