# La Ricerca Pratica: ci serve?

**Andrea Fabbri**

AUSL della Romagna - Forlì (FC)
*andrea.fabbri@auslromagna.it*

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BOLOGNA 18-19 SETTEMBRE 2017

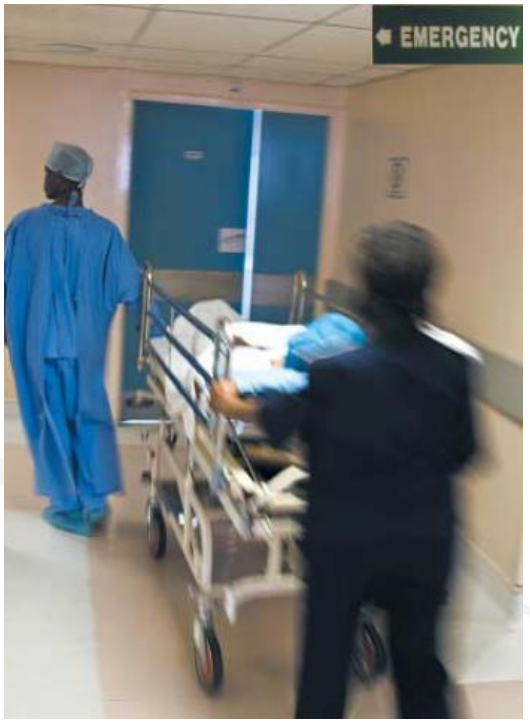
# NIH Signals Intent to Boost Funding of Emergency Care Research and Training

MEDICAL NEWS & PERSPECTIVES

**A. Kellermann**: "emergency care research "focuses on the discovery and application of time-critical diagnostics, decision making, and treatments that save lives, prevent or reduce disability and restore human health"

**W. Koroshetz**: stresses the importance of Office of Emergency Care Research (OECR) within the NIH as a focal point for the scientific community and broker multi-institutional funding.

**Jerris Hedges**: reminds there Emergency physicians are investigators, who are interdisciplinary and focused on time-sensitive measures that will have significant downstream impact on patients."

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JAMA, September 26, 2012—Vol 308, No. 12

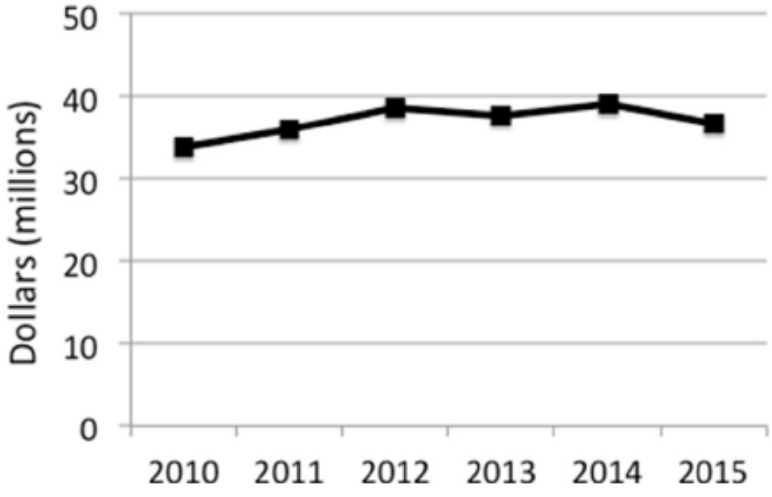
SOCIETÀ ITALIANA MEDICINA D'EMERGENZA-URGENZA SIMEU

## OECR, a new office by the National Institute of Health

- Coordinate funding opportunities that involve multiple NIH institutes and centers;
- Work with the NIH Emergency Care Research Working Group, whith representatives from most NIH institutes and centers;
- Organize scientific meetings to identify new emergency care research;
- Promote the development of new funding sources;
- Inform investigators about funding opportunities;
- Represent the NIH in government wide efforts to improve the nation's emergency care system.

# National Institutes of Health Funding of Emergency Care Research: Feast or Famine?

1. ***J Baren*** *"Emergency care research remains* ***vastly underfunded*** *compared to the burden and influence of clinical emergency care"*.
2. In US over **136 million pts.** visited annually in ED.
3. With a clinical research investment of $0.44 per pt. encounter**, $61 million** spent on clinical emergency care research **pales in comparison to** the **$233 million** spent on sleep disorders and the **$494 million** spent on rehabilitation research …..




*With a clinical research investment of 0.44 $ / pt. encounter, 20 million pts. visited annually in Italian ED, would lead to 8.8 milions $ / yr ...*

*J Baren* ***Ann Emerg Med (ed).*** *2016*

# Revised National Estimates of Emergency Department Visits for Sepsis in the United States

## Estimated Annual Nr. of Adult ED Sepsis visits, 2009–2011

| Original ED Sepsis Classification | Quick Sequential Organ Failure Assessment ED Sepsis Classification: Absent | Quick Sequential Organ Failure Assessment ED Sepsis Classification: Present | Total |
|---|---|---|---|
| Absent | 102,409,648 | 182,549 | 102,592,197 |
| Present | 529,036 | 136,283 | 665,319 |
| Total | 102,938,684 | 318,832 | 103,257,516 |

Total revised ED sepsis visits = original ED sepsis + quick Sequential Organ Failure Assessment ED sepsis. = 529,036 + 182,549 + 136,283. = 847,868 (95% CI, 692,616–1,003,121) ED visits (0.82% [95% CI, 0.74–0.91] of all adult ED visits).

ED = emergency department.

HE Wang ***Crit Care Med*** 2017

# Trends in Adult Cancer-Related Emergency Department Utilization

## An Analysis of Data From the Nationwide Emergency Department Sample

**Question** What proportion of adult US emergency department visits are for a cancer-related complication?

**Findings** In this cross-sectional analysis of Nationwide Emergency Department Sample data from 2006 to 2012, 29.5 million adult US emergency department visits were for a cancer-related complication, representing 4.2% of all visits.

**Meaning** The emergency department is a care setting used for adult cancer-related complication management representing an opportunity to inform patient and system-directed prevention and management strategies.

DR Rivera, ***JAMA Oncology*** *2017*

# Development and Validation of a Tool to Identify Patients With Type 2 Diabetes at High Risk of Hypoglycemia-Related Emergency Department or Hospital Use

**MAIN OUTCOMES AND MEASURES** Hypoglycemia-related ED or hospital use during 12 months of follow-up.

**RESULTS** The derivation sample (165 148) had a mean (SD) age of 63.9 (13.0) years and included 78 576 (47.6%) women. The crude annual rate of at least 1 hypoglycemia-related ED or hospital encounter in the KPNC derivation sample was 0.49%. The resulting hypoglycemia risk stratification tool required 6 patient-specific inputs: n. of prior episodes of hypoglycemia-related utilization, insulin use, sulfonylurea use, prior year ED use, chronic kidney disease and age.

**CONCLUSIONS** This hypoglycemia risk stratification tool categorizes the 12-month risk of hypoglycemia-related utilization in patients with T2D using only 6 inputs. This tool could facilitate targeted population management interventions, potentially reducing hypoglycemia risk and improving patient safety and quality of life.

AJ Karter, ***JAMA Oncology*** 2017

# National Characteristics of Emergency Medical Services Responses for Older Adults in the United States

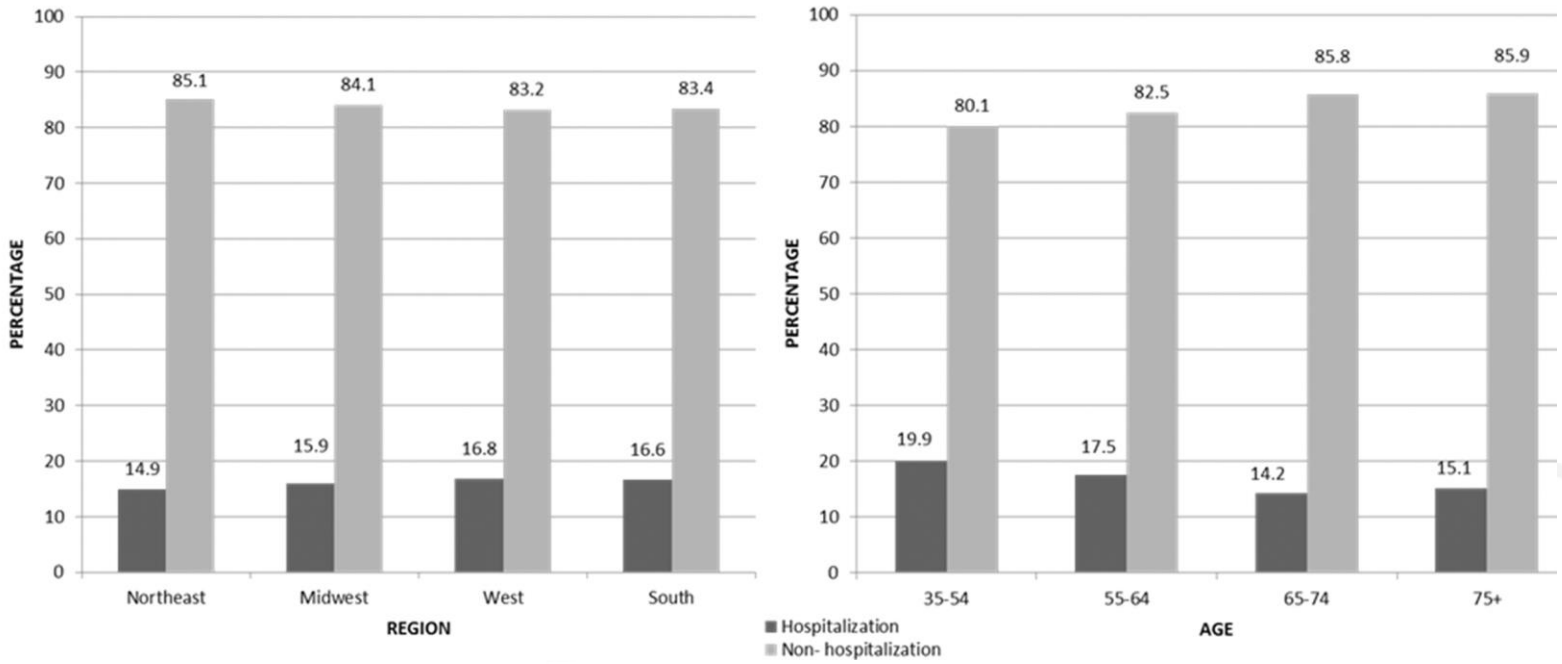
| Clinical Impression | Older adults (N = 6,569,064) | Younger Adults (N = 9,547,155) |
|---|---|---|
| Traumatic Injury | 715,391 (10.9%) | 1,297,932 (13.6%) |
| Environmental Toxin (Poison, bite, smoke) | 26,303 (0.40%) | 377,756 (3.96%) |
| Neurological disorders (Altered consciousness, psychiatric disorder, seizure) | 488,294 (7.4%) | 1,213,683 (12.7%) |
| Abdominal pain/problem | 377,292 (5.7%) | 702,687 (7.4%) |
| Cardiovascular Emergency (shock, stroke, syncope, chest pain) | 907,306 (13.81%) | 988,474 (10.35) |
| Cardiac arrest/rhythm | 214,671 (3.3%) | 161,058 (1.7%) |
| Diabetic symptoms | 124,492 (1.9%) | 173,895 (1.8%) |
| Other | 86,323 (1.31%) | 191,690 (2.01%) |
| Airway Emergency (anaphylaxis, respiratory distress, airway obstruction) | 594,081 (9.04%) | 538,151 (5.64%) |
| Unknown | 3,034,911 (46.2%) | 3,901,799 (40.9%) |

*Adjusted for race, gender, dispatch time, and U.S. census region.

HV Duong, ***Prehosp Emerg Care*** 2017

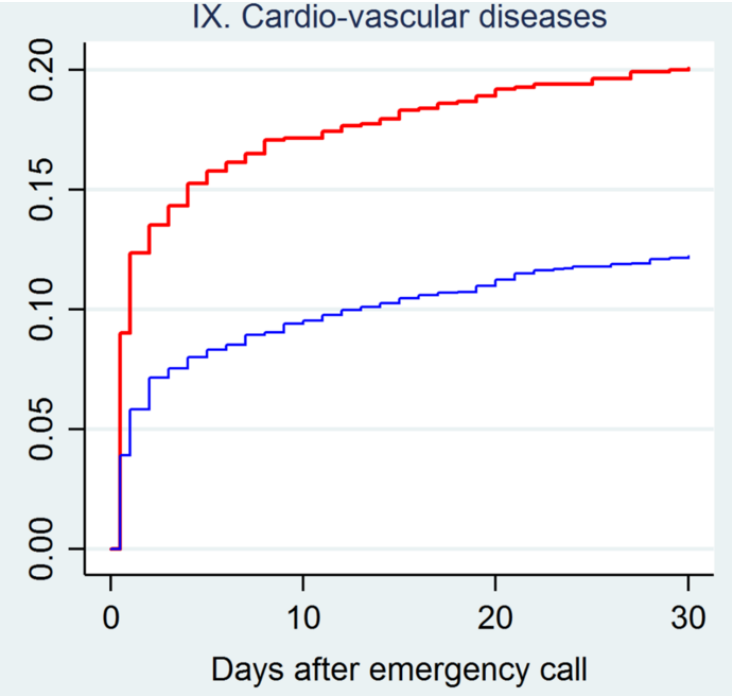
# Characteristics of COPD Patients Using United States Emergency Care or Hospitalization

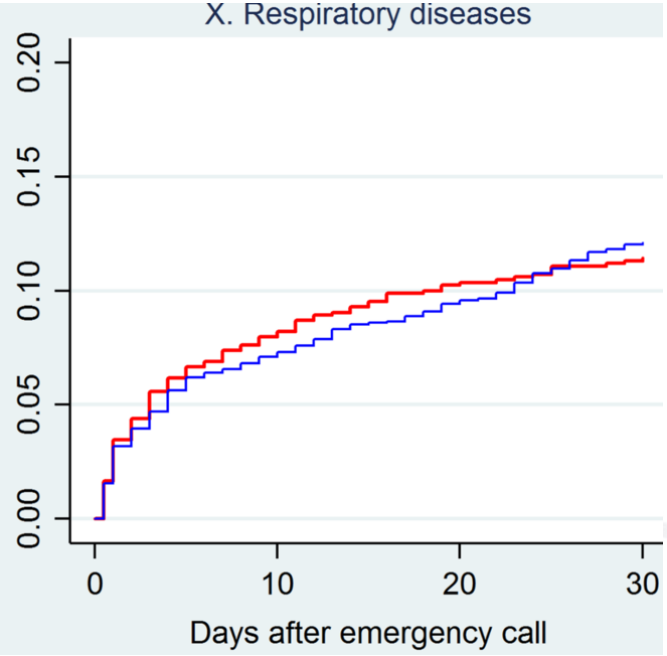
Prevalence of ED visits or Hospitalization: Region of US and Age




SD Kumhare, ***JCOPDF*** 2016

# Trends in diagnostic patterns and mortality in emergency ambulance service patients in 2007–2014: a population-based cohort study from the North Denmark Region

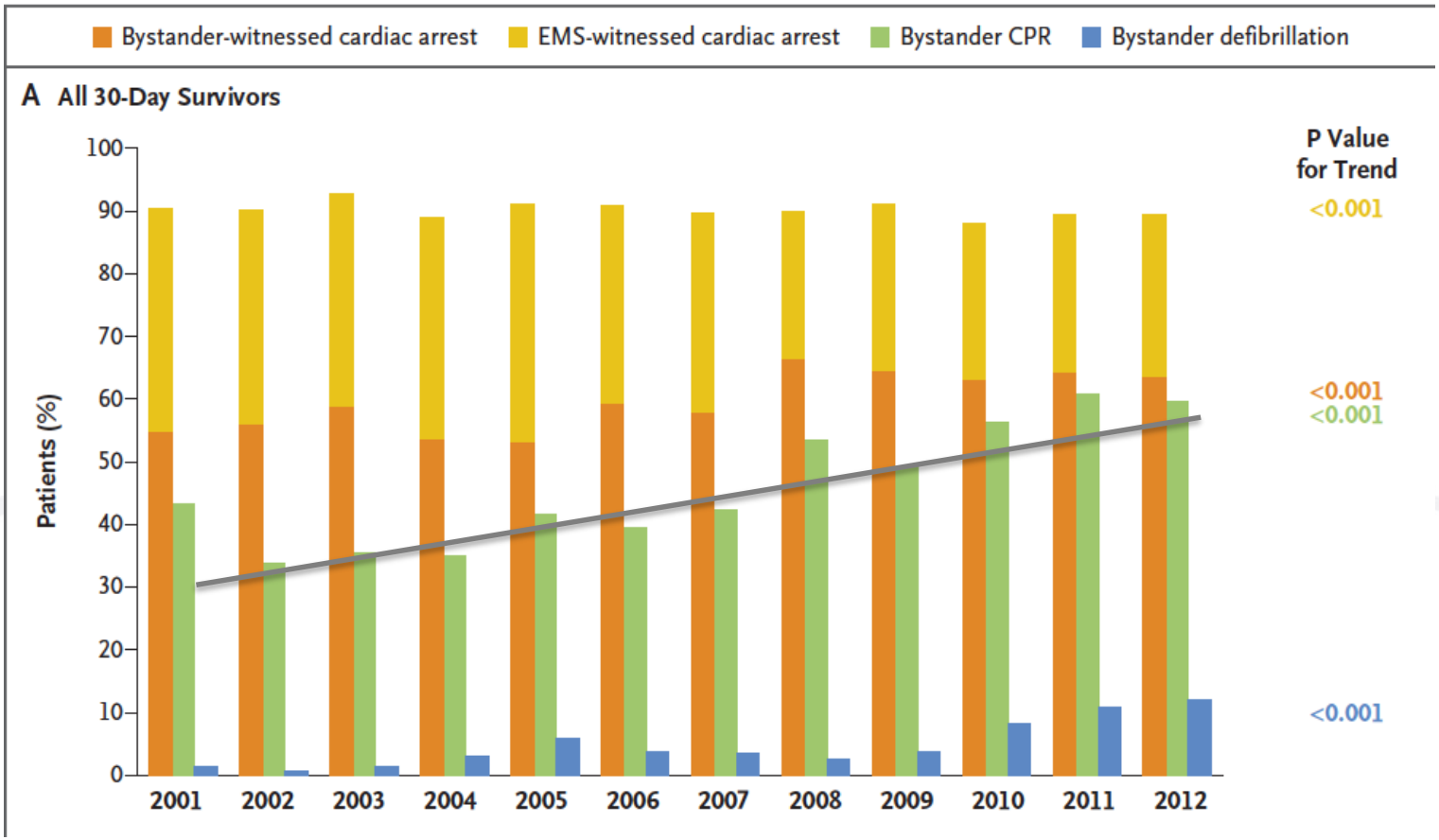



Mortality up to 30 days after calling for an emergency ambulance among emergency ambulance service pts with the most frequent hospital diagnoses according to ICD 10° edition, chapters in the North Denmark Region in 2007 and 2014.

Christensen EF, *et al*. ***BMJ Open*** 2017

# Bystander Efforts and 1-Year Outcomes in Out-of-Hospital Cardiac Arrest




*From the **Danish** Cardiac Arrest Registry*

K Kragholm, ***N Engl J Med*** 2017

# Public-Access Defibrillation and Out-of-Hospital Cardiac Arrest in Japan

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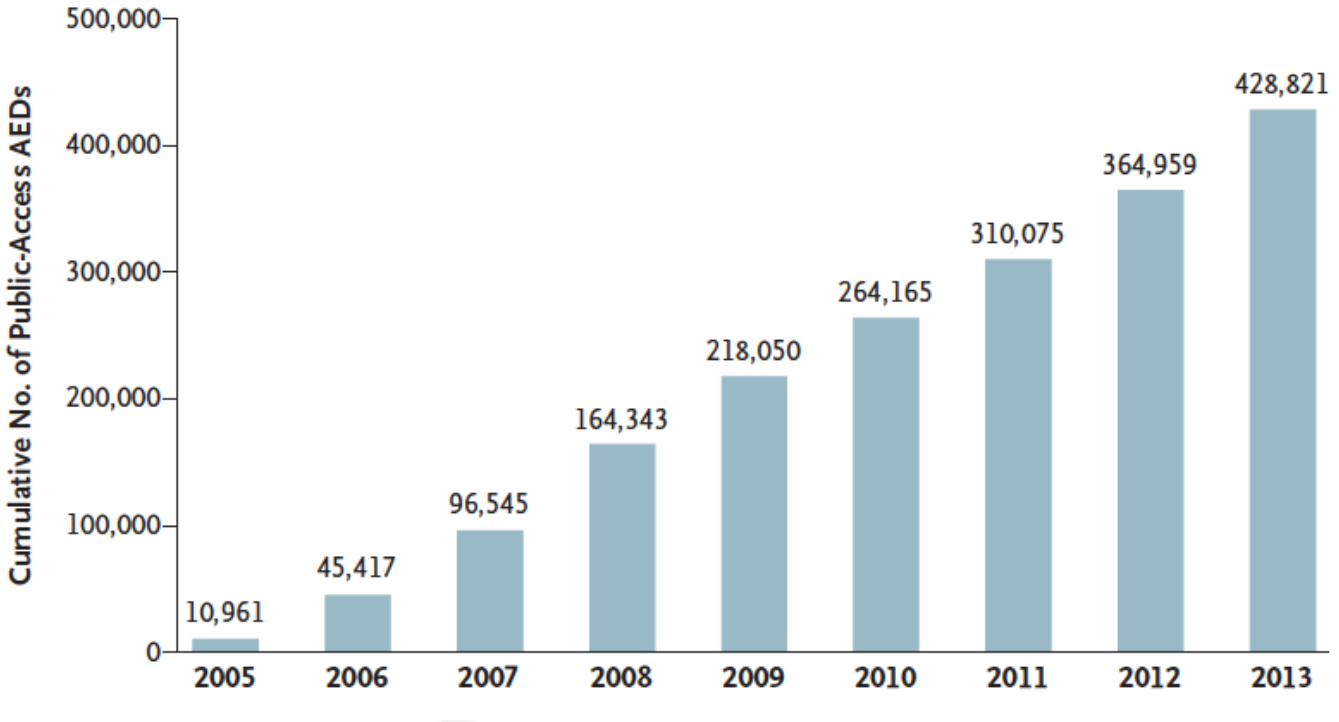


*From the **Japanese** Cardiac Arrest Registry*

T Kitamura, ***N Engl J Med*** 2016

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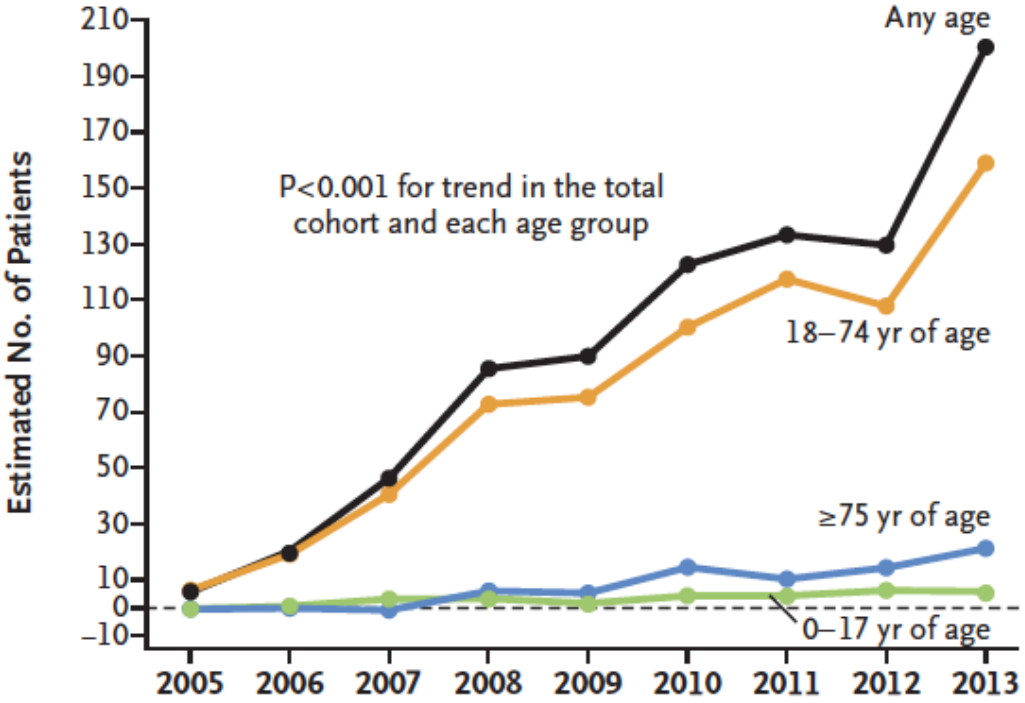
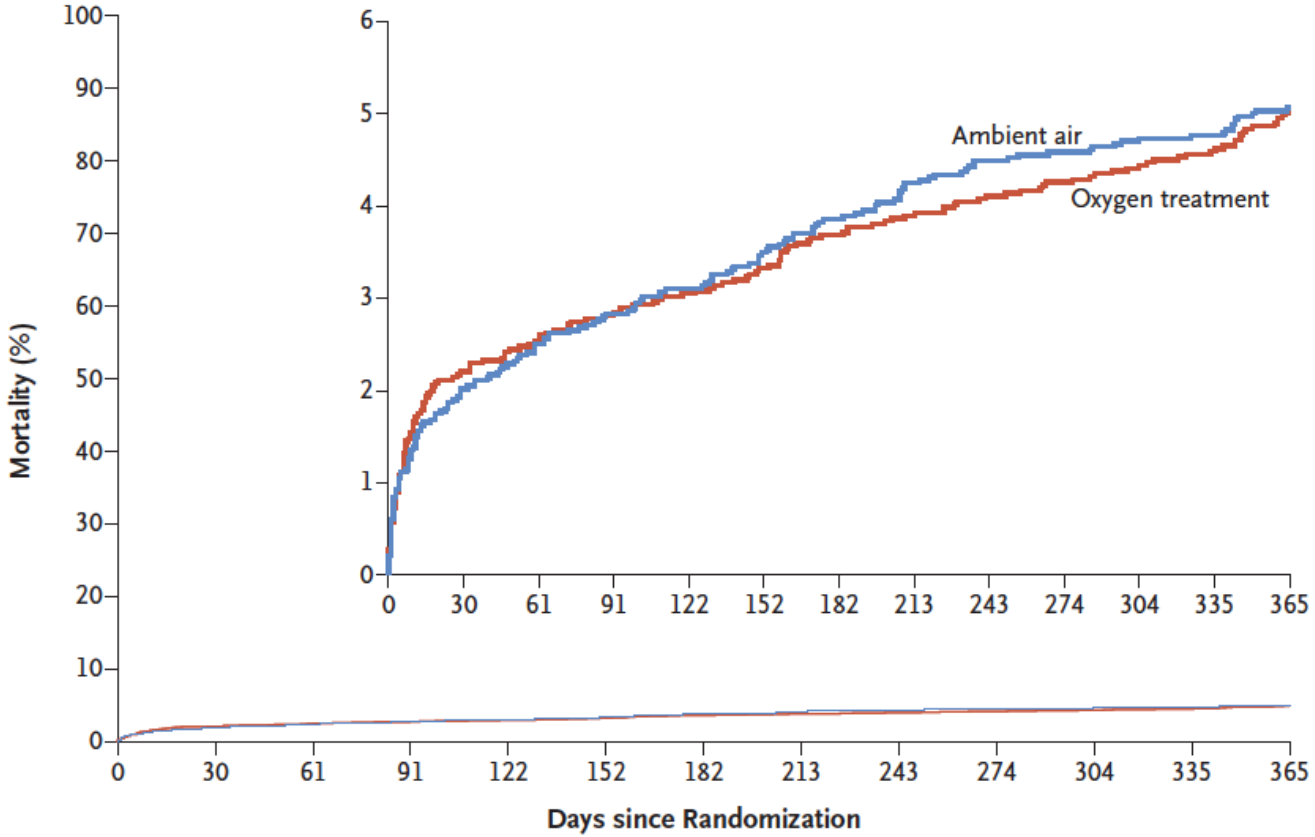



Estimated N. of Pts in Whom Survival with a Favorable Outcome was attributed to PublicAccess Defibrillation (PAD) after Bystander-Witnessed Ventricular-Fibrillation Arrest of cardiac origin.

*From **Japanese** Cardiac Arrest Registry*

T Kitamura, ***N Engl J Med*** 2016

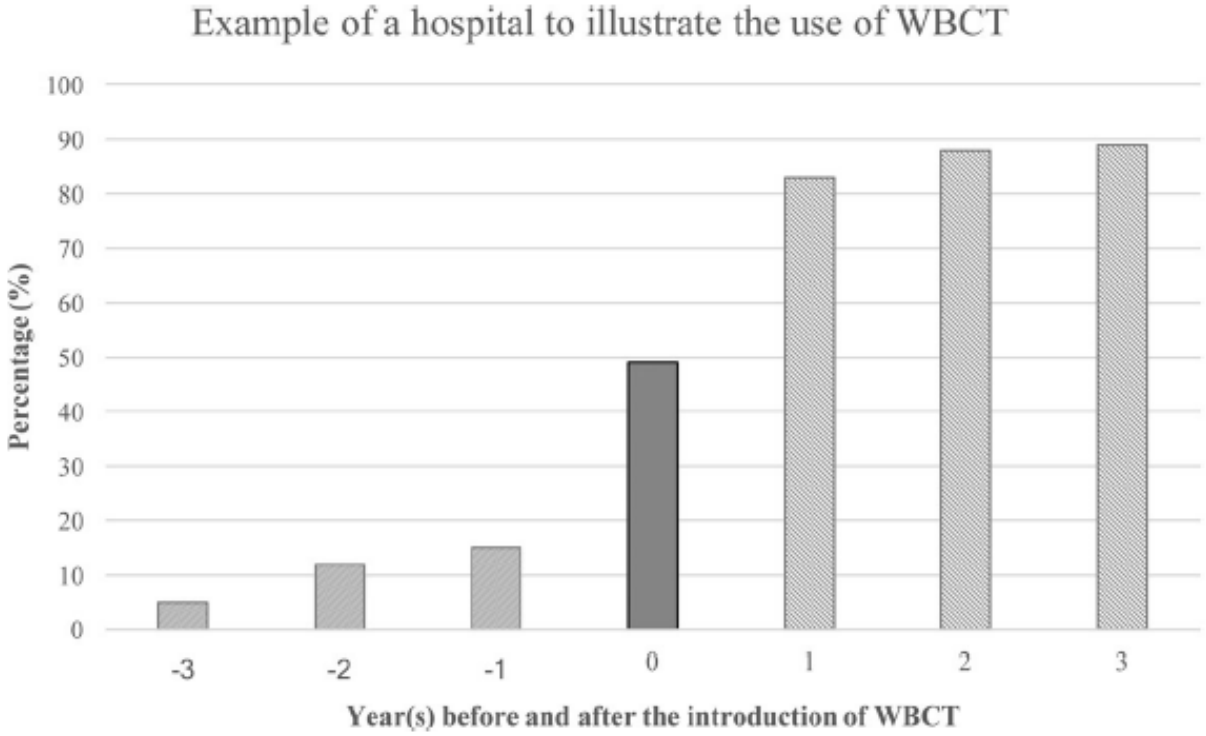
# Oxygen Therapy in Suspected Acute Myocardial Infarction




*From **SWEDEHEART** registry*

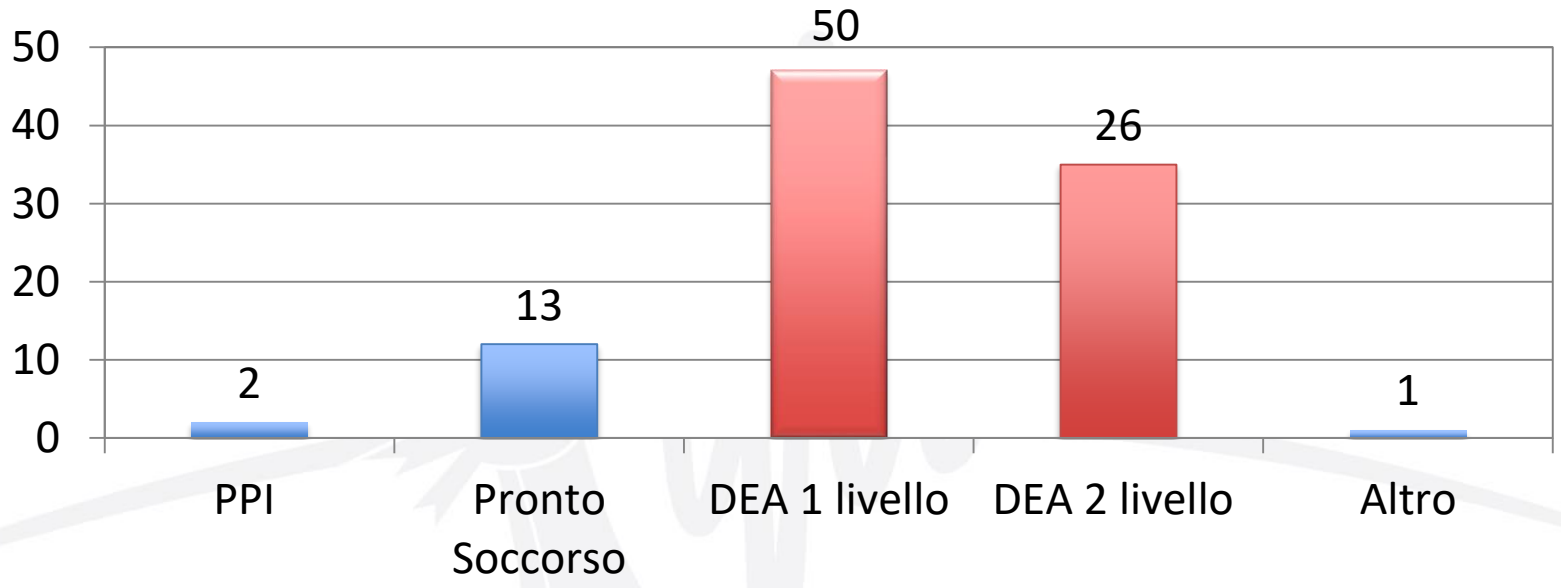
R Hoffman, ***N Engl J Med*** 2017

# The role of whole-body computed tomography in the diagnosis of thoracic injuries in severely injured patients – a retrospective multi-centre study based on the trauma registry of the German trauma society (TraumaRegister DGU®)



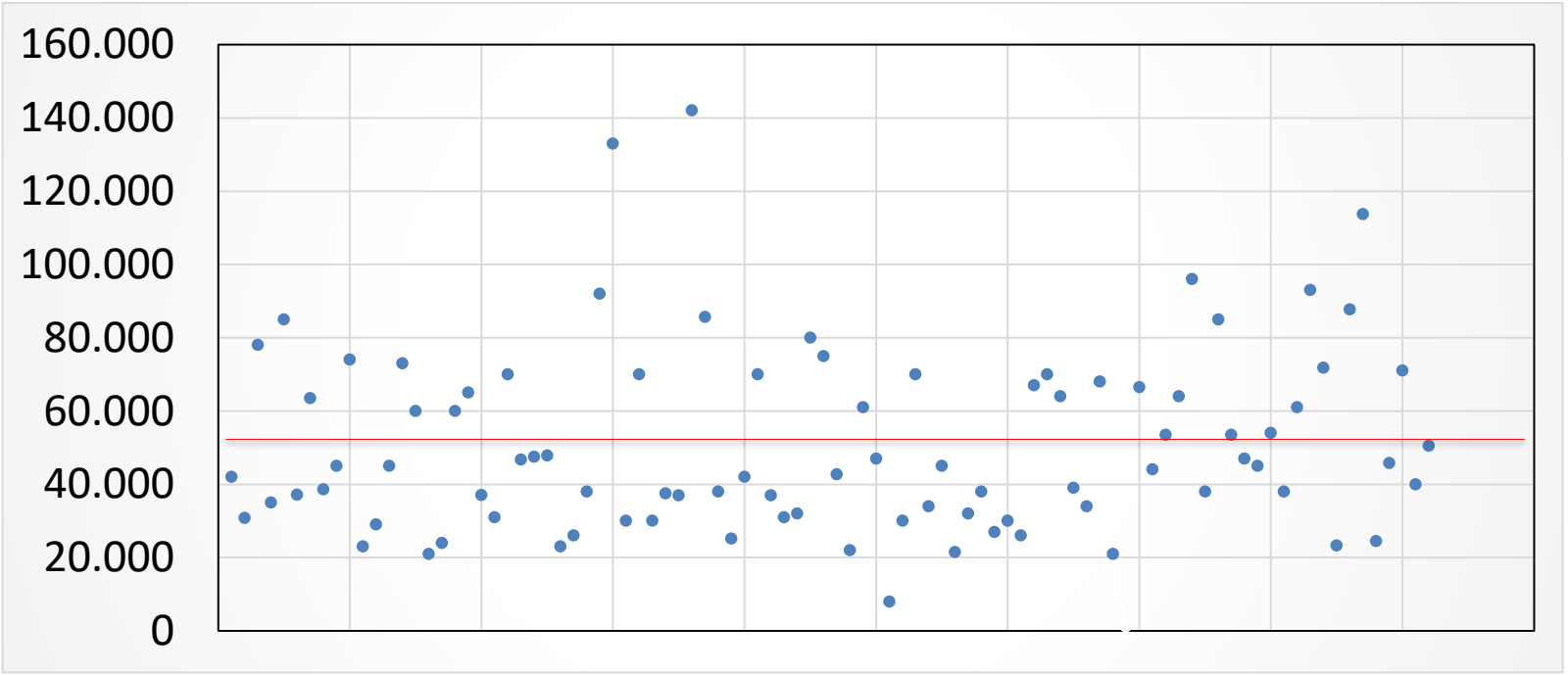

Land, ***Scand*** **JTREM** 2017

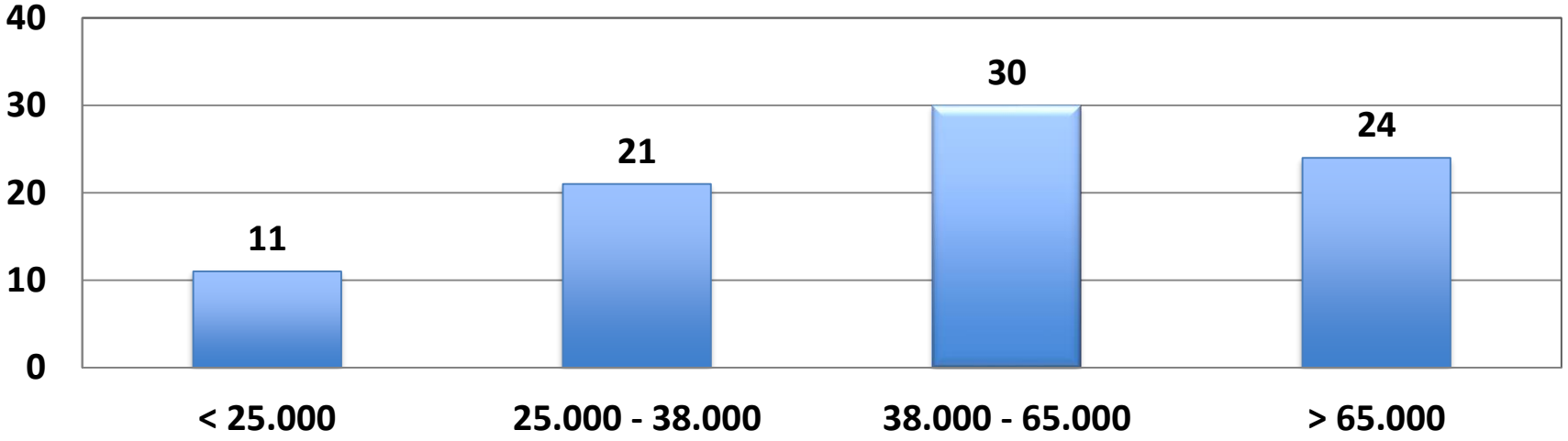
**L'Accademia dei Direttori 2017**: Risultati del Questionario su 4 patologie tempo-dipendenti.



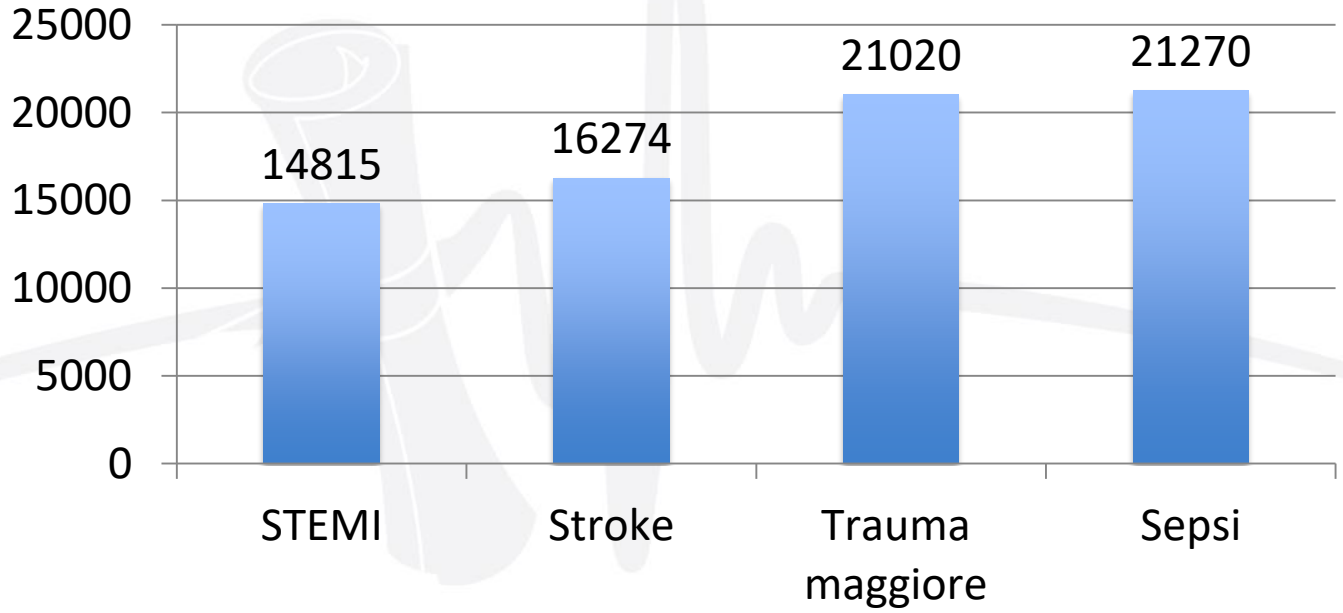

*92 i centri che hanno risposto al questionario, relativo all'anno 2016 (totale di 4.750.000 accessi).*

# Questionario 92 centri = 4.875.000 accessi di Pronto Soccorso



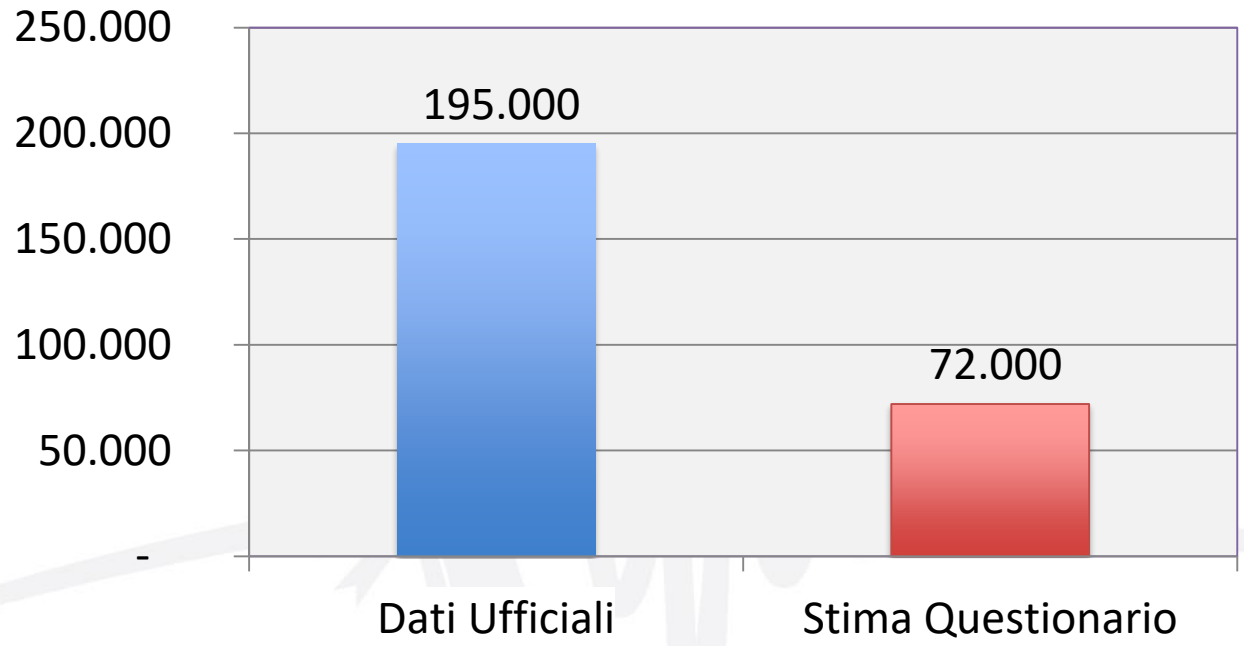



Diagnosi di STEMI, Stroke, Trauma Maggiore e Sepsi fornite dal Questionario di 92 centri (4.875.000 accessi), anno 2016.



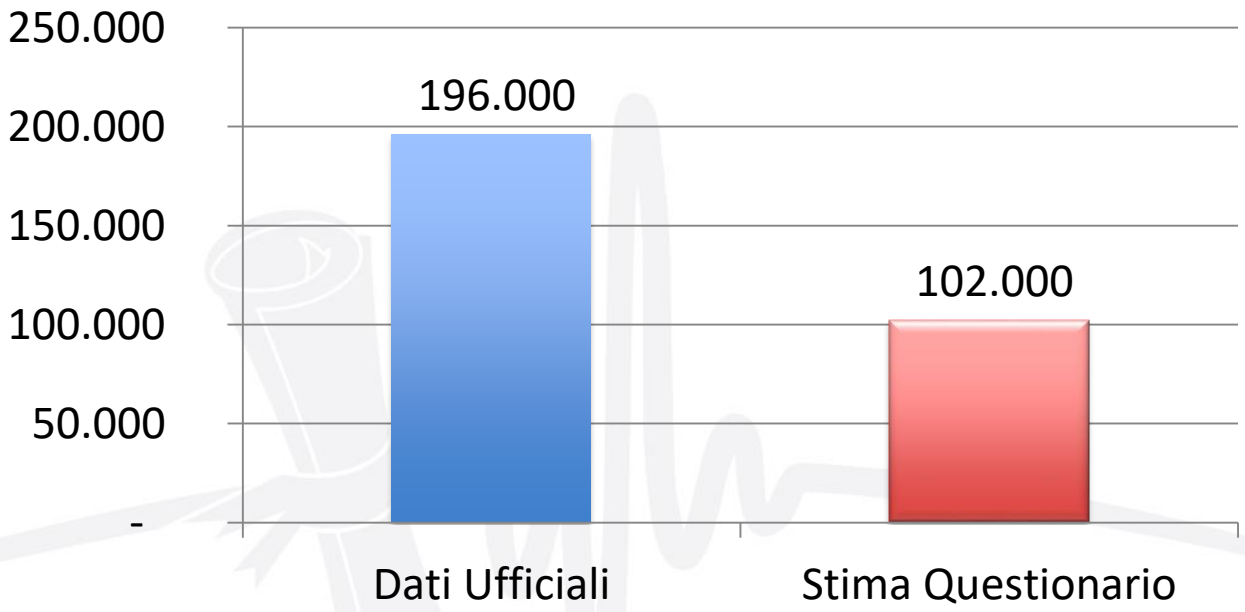

*In totale **350.000** la stima dei casi se rapportata a 20 milioni di accessi.*

# Stima Nazionale dei casi con STEMI in Pronto Soccorso.



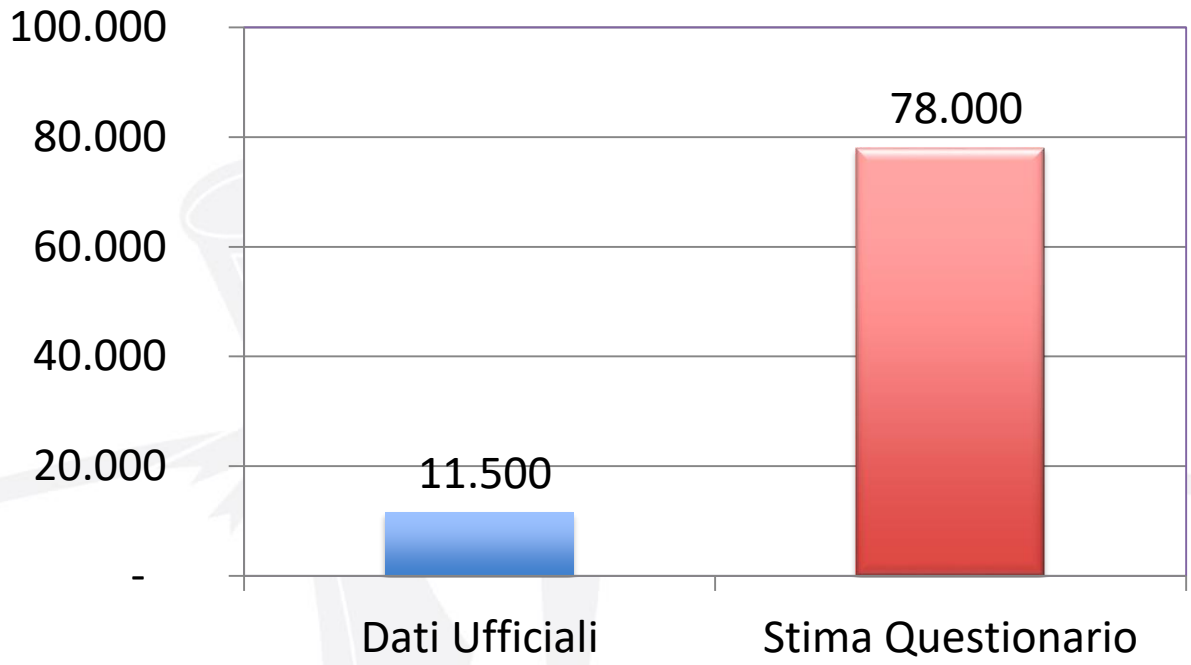

*92 i centri che hanno risposto al questionario sul numero di casi anno 2016 (4.750.000 accessi): stima eseguita su 20 milioni di accessi.*

# Stima Nazionale dei casi con Stroke in Pronto Soccorso.




*92 i centri che hanno risposto al questionario sul numero di casi anno 2016 (4.750.000 accessi): stima eseguita su 20 milioni di accessi.*

# Stima Nazionale dei casi con Trauma Maggiore in Pronto Soccorso.

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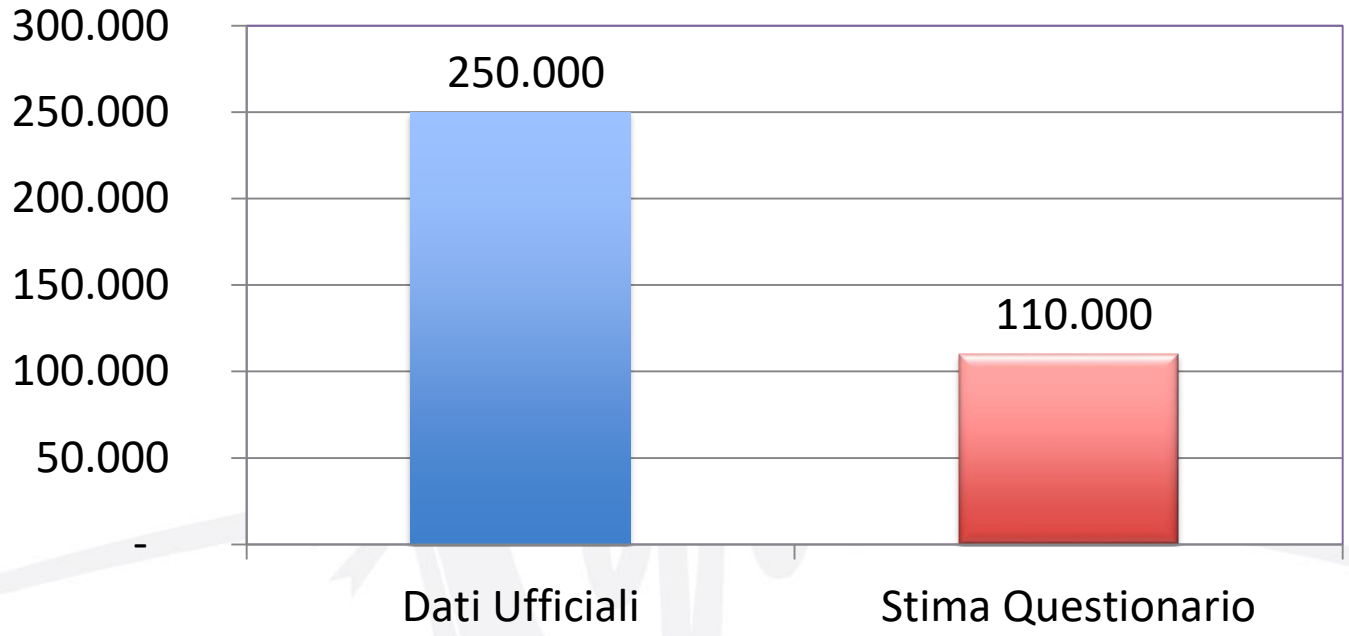
# Stima Nazionale dei casi con Sepsi in Pronto Soccorso.

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# Conclusioni

- **Elias Zerhouni** *2007:* "In response to the 2006 report of the IOM Committee on the Future of Emergency Care in the US Health System, said …*if we do not define and prioritize the body of science unique to emergency care, someone else will do it for us.*"
- Ma in Italia la ricerca è "un hobby di lusso"....!!??
- **L'Accademia dei Direttori** deve affermarne **la assoluta priorità** per:
  Curare meglio i pazienti ..
  Esercitare il governo clinico …
  Valorizzare il ruolo dell'Urgenza…
  Fornire prove per amministratori e decisori ...

**Take home**:

1. Trasformiamo i 350.000 codici rossi in diagnosi.
2. Stimoliamo il finanziamento di registri clinici sulle patologie tempo-dipendenti

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## Conclusioni

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