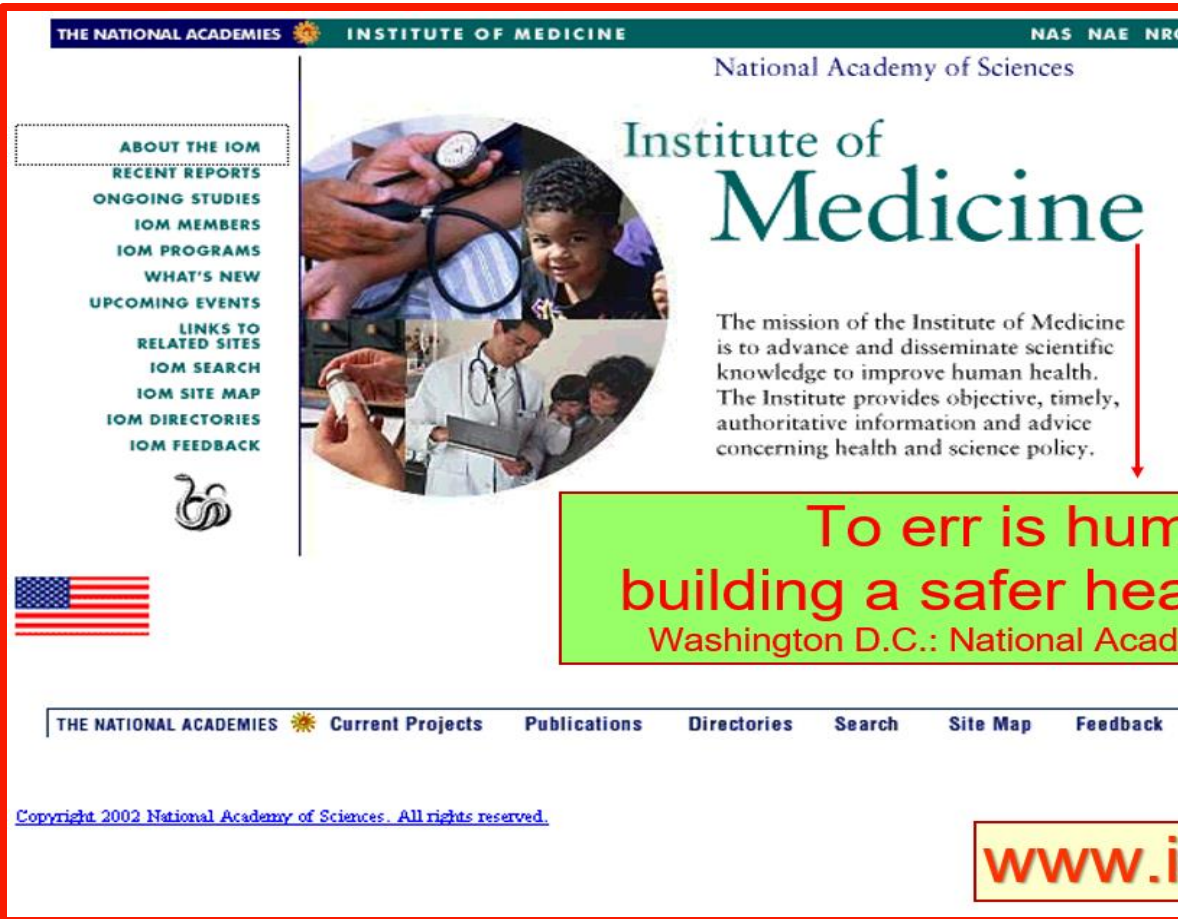


## Dalla teoria alla pratica: strumenti a supporto del lavoro dei Risk Manager



**Pietro Barbieri – UO Valutazione Outcome e Percorsi Clinici  
Direzione Sanitaria - Ospedale San Raffaele Milano**

When extrapolated to the over 33.6 million admissions to U.S. hospitals in 1997, the results of the study in Colorado and Utah imply that at least 44,000 Americans die each year as a result of medical errors.<sup>3</sup> The results of the New York Study suggest the number may be as high as 98,000.<sup>4</sup> Even when using the lower estimate, deaths due to medical errors exceed the number attributable to the 8th-leading cause of death.<sup>5</sup> More people die in a given year as a result of medical errors than from motor vehicle accidents (43,458), breast cancer (42,297), or AIDS (16,516).<sup>6</sup>



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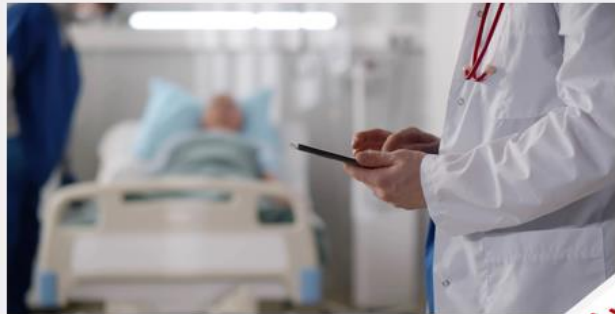
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**To err is human:  
building a safer health system**  
Washington D.C.: National Academy press 2000

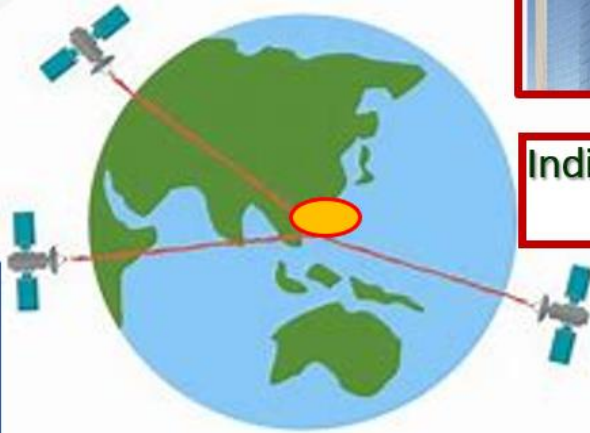






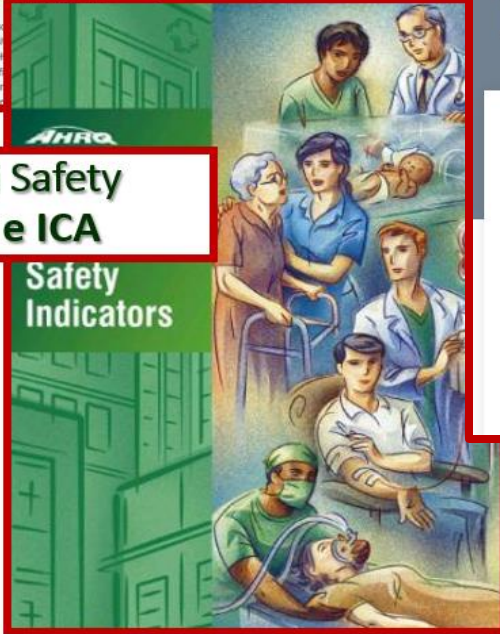
**Segnalazioni volontarie**

**Eventi avversi / Near Miss**  
**Dispositivovigilanza**  
**Farmacovigilanza**



**Indicatori di Safety**  
**Sepsi e ICA**

**Safety**  
**Indicators**



**Richieste di risarcimento**



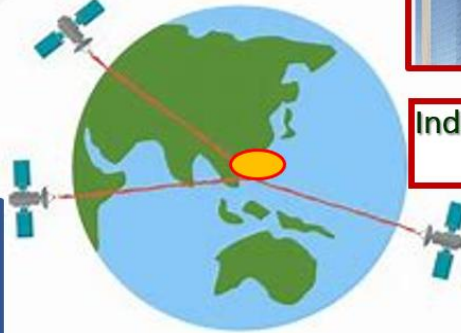




**Eventi avversi / Near Miss**  
**Dispositivovigilanza**  
**Farmacovigilanza**

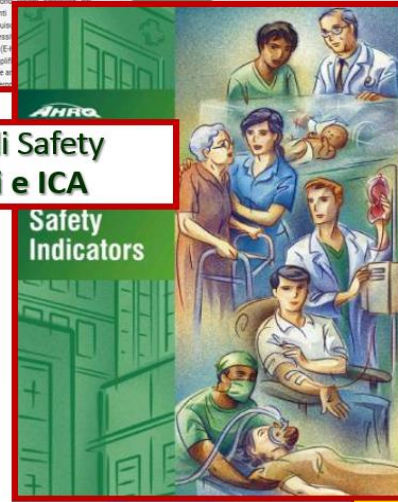
**Segnalazioni volontarie**

**Richieste di risarcimento**



**Indicatori di Safety**  
**Sepsi e ICA**

**Safety**  
**Indicators**



**PNE 2024** Programma Nazionale Esiti Edizione 2024

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Report PNE ed. 2024

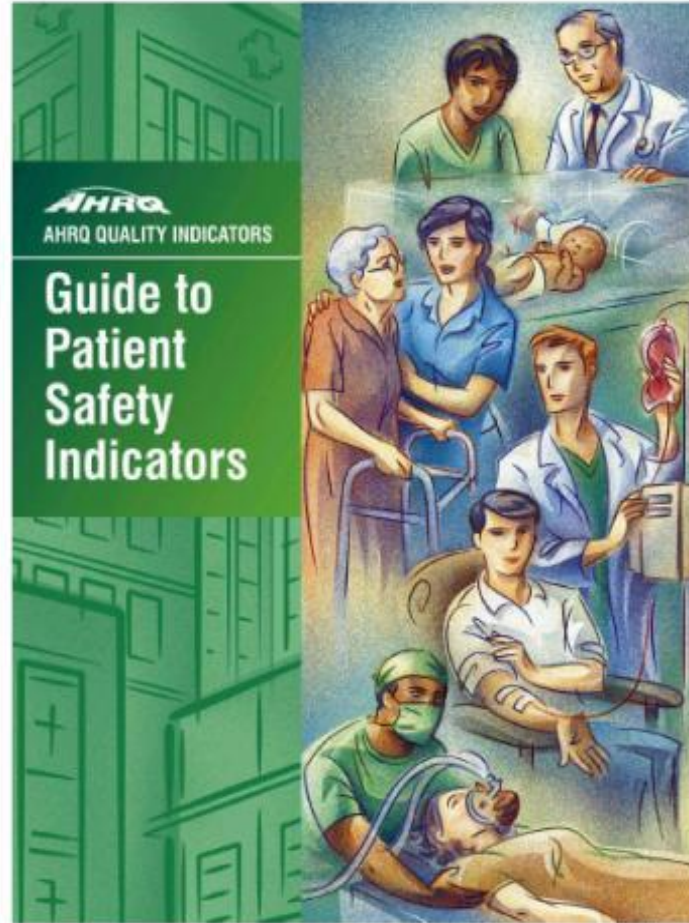
**Assistenza Ospedaliera**

Indicatori per ambito nosologico/struttura, flussi e treemap

**Assistenza Territoriale**

Tassi di accesso in P.S., ospedalizzazioni evitabili ed esiti territoriali

**Indicatori di Safety: Eventi immediati e tardivi**



**Sono orientati alla  
misurazione degli eventi  
iatrogeni e delle  
complicazioni evitabili**

**Sono misure che consentono  
di sorvegliare l'incidenza  
degli eventi avversi come  
presunta conseguenza dei  
processi assistenziali**

**Questi eventi sono in parte  
prevenibili per mezzo di  
interventi formativi o  
riorganizzativi**



INDICATOR	LABEL	NUMERATOR	DENOMINATOR	RATE*1,000)
PSI 02	Death Rate in Low-Mortality Diagnosis Related Groups (DRGs), per 1,000 Admissions	1,071	2,048,516	0.52
PSI 03	Pressure Ulcer Rate, per 1,000 Admissions	10,054	15,470,718	0.65
PSI 04	Death Rate among Surgical Inpatients with Serious Treatable Complications, per 1,000 Admissions	35,086	244,657	143.41
PSI 04 DVT PE	Death Rate among Surgical Inpatients with Serious Treatable Complications – Stratum: Deep Vein Thrombosis/Pulmonary Embolism (DVT PE), per 1,000 Admissions	1,333	29,777	44.77
PSI 04 Pneumonia	Death Rate among Surgical Inpatients with Serious Treatable Complications – Stratum: Pneumonia, per 1,000 Admissions	9,559	107,998	88.51
PSI 04 Sepsis	Death Rate among Surgical Inpatients with Serious Treatable Complications – Stratum: Sepsis, per 1,000 Admissions	11,112	51,419	216.11
PSI 04 Shock/Cardiac Arrest	Death Rate among Surgical Inpatients with Serious Treatable Complications – Stratum: Shock/Cardiac Arrest, per 1,000 Admissions	11,362	34,864	325.89
PSI 04 GI Hemorrhage	Death Rate among Surgical Inpatients with Serious Treatable Complications – Stratum: Gastrointestinal (GI) Hemorrhage/Acute Ulcer, per 1,000 Admissions	1,720	20,599	83.50
PSI 05	Retained Surgical Item or Unretrieved Device Fragment Count	619	--	--
PSI 06	Iatrogenic Pneumothorax Rate, per 1,000 Admissions	4,490	23,171,738	0.19
PSI 07	Central Venous Catheter-Related Blood Stream Infection Rate, per 1,000 Admissions	1,845	18,413,960	0.10
PSI 08	In Hospital Fall with Hip Fracture Rate, per 1,000 Admissions	1,437	19,636,709	0.07
PSI 09	Perioperative Hemorrhage or Hematoma Rate, per 1,000 Admissions	14,190	6,315,010	2.25
PSI 10	Postoperative Acute Kidney Injury Requiring Dialysis Rate, per 1,000 Admissions	2,973	3,390,009	0.88
PSI 11	Postoperative Respiratory Failure Rate, per 1,000 Admissions	12,996	2,943,692	4.41
PSI 12	Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate, per 1,000 Admissions	22,480	6,666,726	3.37
PSI 13	Postoperative Sepsis Rate, per 1,000 Admissions	13,212	3,328,249	3.97
PSI 14	Postoperative Wound Dehiscence Rate, per 1,000 Admissions	1,199	1,783,010	0.67
PSI 14 Open	Postoperative Wound Dehiscence Rate - Stratum: Open, per 1,000 Admissions	1,161	832,377	1.39
PSI 14 Non-Open	Postoperative Wound Dehiscence Rate - Stratum : Non-Open, per 1,000 Admissions	38	950,633	0.04
PSI 15	Abdominopelvic Accidental Puncture or Laceration Rate, per 1,000 Admissions	4,484	4,319,269	1.04
PSI 18	Obstetric Trauma Rate Vaginal Delivery With Instrument, per 1,000 Admissions	16,622	144,015	115.42
PSI 19	Obstetric Trauma Rate Vaginal Delivery Without Instrument, per 1,000 Admissions	38,595	2,188,577	17.63

INDICATOR	LABEL	NUMERATOR	DENOMINATOR	RATE*1,000)
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**Patient Safety Indicator 90 (PSI 90)**  
**Patient Safety and Adverse Events Composite**  
**July 2022**  
**Hospital-Level Indicator**  
**Type of Score: Ratio**

**Prepared by:**

Agency for Healthcare Research and Quality

U.S. Department of Health and Human Services

[qualityindicators.ahrq.gov](http://qualityindicators.ahrq.gov)

**DESCRIPTION**

The weighted average of the observed-to-expected ratios for the following

- PSI\_03 Pressure Ulcer Rate
- PSI\_06 Iatrogenic Pneumothorax Rate
- PSI\_08 In Hospital Fall With Hip Fracture Rate
- PSI\_09 Postoperative Hemorrhage or Hematoma Rate
- PSI\_10 Postoperative Acute Kidney Injury Requiring Dialysis Rate
- PSI\_11 Postoperative Respiratory Failure Rate
- PSI\_12 Perioperative Pulmonary Embolism (PE) or Deep Vein Thrombosis (DVT) Rate
- PSI\_13 Postoperative Sepsis Rate
- PSI\_14 Postoperative Wound Dehiscence Rate
- PSI\_15 Abdominopelvic Accidental Puncture or Laceration Rate

INDICATOR	HARM WEIGHT	VOLUME WEIGHT	COMPONENT WEIGHT
PSI 03 Pressure Ulcer Rate	0.3080	0.1068	0.1669
PSI 06 Iatrogenic Pneumothorax Rate	0.1381	0.0435	0.0305
PSI 08 In Hospital Fall With Hip Fracture Rate	0.1440	0.0199	0.0145
PSI 09 Postoperative Hemorrhage or Hematoma Rate	0.0570	0.1499	0.0434
PSI 10 Postoperative Acute Kidney Injury Requiring Dialysis Rate	0.3584	0.0314	0.0572
PSI 11 Postoperative Respiratory Failure Rate	0.2219	0.2129	0.2397
PSI 12 Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate	0.1557	0.2288	0.1808
PSI 13 Postoperative Sepsis Rate	0.3102	0.1367	0.2151
PSI 14 Postoperative Wound Dehiscence Rate	0.1441	0.0238	0.0174
PSI 15 Abdominopelvic Accidental Puncture or Laceration Rate	0.1474	0.0461	0.0345



Research Brief



INSTITUTE FOR CIVIL JUSTICE

## Does Improved Patient Safety Reduce Malpractice Litigation?

In recent years, doctors and hospitals have become increasingly committed to improving patient safety. The publication of *To Err Is Human* in 2000, which trumpeted the scale of preventable injuries in the nation's hospitals, helped launch the patient safety movement and spur innovative practices and technologies to reduce such injuries. Improved patient safety should also help reduce malpractice risk for physicians and facilities, but this outcome has not yet been systematically demonstrated.

A new RAND study set out to do just that. Focusing on California, it examined administrative safety data for hospitals from 2001 through 2005 and related that data to the volume of malpractice claiming, by county and by year, over the same period. The researchers found a strong

### Abstract

This research brief examines the relationship between safety outcomes in hospitals and malpractice claiming against physicians. Focusing on county-level data from California, a large state where caps on damages and other aspects of tort law have been stable for decades, researchers found that patient safety outcomes were strongly correlated with the number of medical malpractice claims, within individual counties and over a number of years from 2001 through 2005. The implication for policy is that greater focus on improving safety performance could benefit both patients and medical providers.

## THE ECONOMICS OF PATIENT SAFETY

From analysis to action

### 3. Investing in patient safety offers good returns

It is expected that by 2030 health expenditure in OECD countries will, on average, account for 11.3% of GDP, up from 8.8% in 2018. The main drivers of this increase are income growth (ability to pay), the low relative productivity and efficiency in health systems, and increasing complexity of medical care and technology (OECD 2019b).

#### 3.1 Targeting specific types of harm at clinical level is a worthwhile investment

Previous reports on the Economics of patient safety identified patient safety interventions that can be considered to take place at the clinical level.<sup>37</sup> Strategies targeting the most common adverse events (VTE, HAI, ADEs, surgical safety, pressure ulcers, falls and diagnostic errors) were ascribed the highest benefit to cost ratios. In this sub-section, recent evidence on the effectiveness and potential return on investment of clinical-level interventions is outlined.



BETTER POLICIES FOR BETTER LIVES

PIETRO BARBIERI

MONITORAGGIO DEM

MONITORAGGIO INTERNO

VALUTAZIONE PERFORMANCE

C

Monitoraggio Interno

IRCCS PRIV - Valutazione Performance S. RAFFAELE - MI

HOME PAGE

Stato Aggiornamento Dati

MONITORAGGIO INTERNO

AHRQ  
Indicatori

Sepsi

DOCUMENTAZIONE

Sistema di valutazione scheda Indicatori di Monitoraggio Interno

Legenda Indicatori

\* campi obbligatori

Periodo di riferimento \*

2024 [Anno completo]

ATS

321 - ATS DELLA CITTA' METROPOLITANA

Indicatore \*

PSI - Patient Safety Indicators

Ente \*

935 - S. RAFFAELE- MI

Struttura \*

030935-00 - IRCCS S. RAFFAELE - MILANC

\* È obbligatoria la selezione di un ente o di una singola struttura; qualora si selezioni un ente, saranno prodotte le estrazioni di tutte le strutture ad esso afferenti

RESET

CREA REPORT

TRACCIATO B		
N. PROGR.	CAMPO	DESCRIZIONE
29	Diagnosi secondarie di dimissione	Le diagnosi secondarie di dimissione sono quelle condizioni, diverse dalla diagnosi principale, che coesistono al momento del ricovero o che si sviluppano in seguito e che influenzano l'assistenza erogata al paziente in termini di: trattamento terapeutico, procedure diagnostiche eseguite, durata della degenza, assistenza infermieristica, monitoraggio clinico. Possono essere riportate al massimo cinque diagnosi secondarie,
29 bis	Diagnosi secondarie presenti al ricovero	Indica se la diagnosi secondaria rilevata alla dimissione era presente anche al momento del ricovero, oppure se è stata individuata attraverso l'anamnesi o diagnosticata successivamente all'ammissione, ma comunque preesistente nel paziente e non insorta durante il ricovero.

## POA: Present On Admission

HOSPID	PSI #90 Patient Safety for Selected Indicators	PSI #90 Patient Safety for Selected Indicators (Variance)	PSI #90 Patient Safety for Selected Indicators (SE)	PSI #90 Patient Safety for Selected Indicators (Weighted Denominator)	PSI #90 Patient Safety for Selected Indicators (Lower CL)	PSI #90 Patient Safety for Selected Indicators (Upper CL)
30	1,1555141	0,0011529	0,0339542	447372,9448	1,0889638	1,2220645
030935-00	0,6090688	0,0118323	0,1087765	18598,9685	0,3958669	0,8222707





**Forum Risk Management**

obiettivo sanità salute

**26-29 NOVEMBRE 2024**  
**AREZZO FIERE E CONGRESSI**

19



*Ministero della Salute*

DIPARTIMENTO DELLA PROGRAMMAZIONE, DEI DISPOSITIVI MEDICI, DEL FARMACO E  
DELLE POLITICHE A FAVORE DEL SSN

DIREZIONE GENERALE DELLA PROGRAMMAZIONE SANITARIA  
UFFICIO 3

### **Evento sentinella n.15**

### **Morte o grave danno imprevisti conseguenti ad intervento chirurgico**

#### ***Descrizione***

Morte o grave danno imprevisti conseguente ad intervento chirurgico, indipendentemente dalla complessità dell'intervento.

Esclusioni: tutti gli eventi avversi conseguenti alle condizioni cliniche del paziente ed attribuibili ad una quota di rischio intrinseco e

i casi di morte o grave danno conseguenti ad intervento chirurgico e dovuti a:



**Forum Risk Management**

obiettivo sanità salute

**26-29 NOVEMBRE 2024**  
**AREZZO FIERE E CONGRESSI**



*Ministero della Sanità*

DIPARTIMENTO DELLA PROGRAMMAZIONE, DELLA POLITICA E DELLE POLITICHE A RILEVANZA NAZIONALE

DIREZIONE GENERALE DELLA PROTEZIONE SANITARIA  
UFFICIO

### **Razionale**

L'evento mette in evidenza possibili carenze organizzative, quali la mancanza o la inadeguata implementazione di specifiche procedure, strumenti di controllo e linee guida per la sicurezza nel percorso chirurgico, l'insufficiente comunicazione tra operatori, anche di differenti unità operative (es. emoteca, radiologia interventistica) o tra operatori e pazienti/familiari, inadeguata gestione del personale, carente formazione ed addestramento, inadeguata supervisione degli operatori, mancato e/o inadeguato utilizzo della check list di sala operatoria. Il riconoscimento dell'evento è importante per procedere alla definizione di interventi sotto il profilo organizzativo, per la revisione dei protocolli in uso, per avviare un'attività di formazione e addestramento del personale.

### **Evento sentinella n.15**

#### **Morte o grave danno imprevisti conseguenti**

#### **Descrizione**

Morte o grave danno imprevisti conseguente ad interventi di alta complessità dell'intervento.

Esclusioni: tutti gli eventi avversi conseguenti alle condizioni di una quota di rischio intrinseco e i casi di morte o grave danno conseguenti ad intervento chirurgico.

1. Procedura chirurgica o interventistica eseguita in paziente sbagliato
2. Procedura chirurgica o interventistica in parte del corpo sbagliata (lato, organo o parte)
3. Errata procedura diagnostico-terapeutica su paziente corretto
4. Strumento o altro materiale lasciato all'interno del sito chirurgico che richiede un successivo intervento o ulteriori procedure
17. Morte o grave danno conseguente ad errato utilizzo o utilizzo anomalo dei dispositivi medici/apparecchiature elettromedicali
20. Morte o grave danno correlati a pratiche anestesilogiche





**Forum Risk Management**

obiettivo sanità salute

**26-29 NOVEMBRE 2024**  
**AREZZO FIERE E CONGRESSI**

**19**

**ICA**

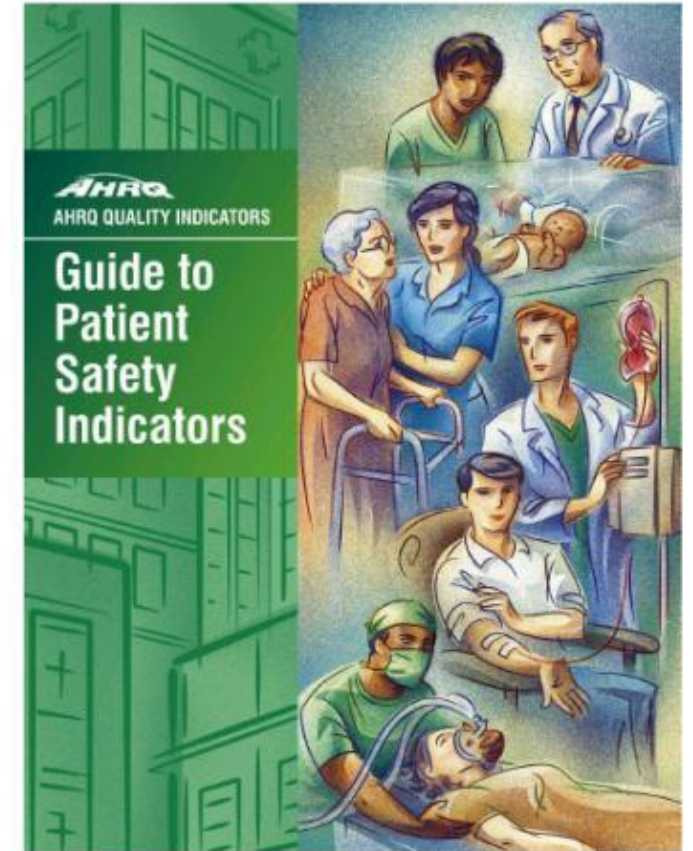


**Sepsi**



## Sepsis – ICD9 cm criteria (AHRQ)

dx0380 = "SETTICEMIA STREPTOCOCCICA  
dx0381 = "SETTICEMIA STAFILOCOCCICA  
dx03810 = "SETTICEMIA STAFILOCOCCICA, NON SPECIFICATA  
dx03811 = "SETTICEMIA DA STAFILOCOCCO AUREO  
dx03812 = "MRSA SETTICEMIA  
dx03819 = "altra SETTICEMIA DA STAFILOCOCCO  
dx0382 = "SETTICEMIA PNEUMOCOCCICA  
dx0383 = "SETTICEMIA DA ANAEROBI  
dx03840 = "SETTICEMIA DA BATTERI GRAM-NEGATIVI, NON SPECIFICATI  
dx03841 = "SETTICEMIA DA HEMOPHILUS INFLUENZAE  
dx03842 = "SETTICEMIA DA ESCHERICHIA COLI  
dx03843 = "SETTICEMIA DA PSEUDOMONAS  
dx03844 = "SETTICEMIA DA SERRATIA  
dx03849 = "ALTRE SETTICEMIE DA MICRORGANISMI GRAM-NEGATIVI  
dx0388 = "OTHER SPECIFIED SEPTICEMIAS  
dx0389 = "UNSPECIFIED SEPTICEMIA  
dx78552 = "SEPTIC SHOCK  
dx78559 = "SHOCK W/O TRAUMA NEC  
dx99591 = "SYSTEMIC INFLAMMATORY RESPONSE SYNDROME DUE TO INFECTIOUS  
dx99592 = "SYSTEMIC INFLAMMATORY RESPDROME DUE TO INFECTIOUS  
dx9980 = "POSTOPERATIVE SHOCK  
dx99800 = "POSTOPERATIVE SHOCK= UNSPE  
dx99802 = "SHOCK FOLLOWING TRAUMA OR SURGERY=CIFIED SEPTIC";





## Identifying Patients With Severe Sepsis Using Administrative Claims

### *Patient-Level Validation of the Angus Implementation of the International Consensus Conference Definition of Severe Sepsis*

*Theodore J. Iwashyna, MD, PhD,\* † Andrew Odden, MD,\* Jeffrey Rohde, MD,\* Catherine Bonham, MD,\* Latoya Kuhn, MPH, † Preeti Malani, MD, MSJ,\* ‡ Lena Chen, MD,\* † and Scott Flanders, MD\**

**Background:** Severe sepsis is a common and costly problem. Although consistently defined clinically by consensus conference since 1991, there have been several different implementations of the severe sepsis definition using ICD-9-CM codes for research. We conducted a single center, patient-level validation of 1 common implementation of the severe sepsis definition, the so-called “Angus” implementation.

**Methods:** Administrative claims for all hospitalizations for patients initially admitted to general medical services from an academic medical center in 2009–2010 were reviewed. On the basis of ICD-9-CM codes, hospitalizations were sampled for review by 3 internal medicine-trained hospitalists. Chart reviews were conducted with a structured instrument, and the gold standard was the hospitalists’ summary clinical judgment on whether the patient had severe sepsis.

79.0%, 100%). The sensitivity was 50.4% (95% CI: 14.8%, 88.8%). Specificity was 96.3% (95% CI: 92.4%, 100%). Two alternate ICD-9-CM implementations had high positive predictive value and sensitivities of <20%.

**Conclusions:** The Angus implementation of the international consensus conference definition of severe sepsis offers a reasonable, imperfect approach to identifying patients with severe sepsis compared with a gold standard of structured review of the medical chart by trained hospitalists.

**Key Words:** severe sepsis, infection, administrative claims, Medicare, sensitivity, positive predictive value

(*Med Care* 2012;00: 000–000)

Nervous	320	Bacterial meningitis
	321	Cryptococcal meningitis
	321.1	Meningitis in other fungal diseases
	324	CNS abscess
	325	Phlebitis of intracranial sinus
	360	Purulent endophthalmitis
	376	Acute inflammation of orbit
	380.14	Malignant otitis externa
Circulatory	383	Acute mastoiditis
	420.99	Acute pericarditis due to other specified organisms
Respiratory	421	Acute or subacute endocarditis
	461	Acute sinusitis
	462	Acute pharyngitis
	463	Acute tonsillitis
	464	Acute laryngitis/tracheitis
	465	Acute upper respiratory infection of multiple sites/not otherwise specified

**INFECTION  
AND  
ORGAN  
DYSFUNCTION**

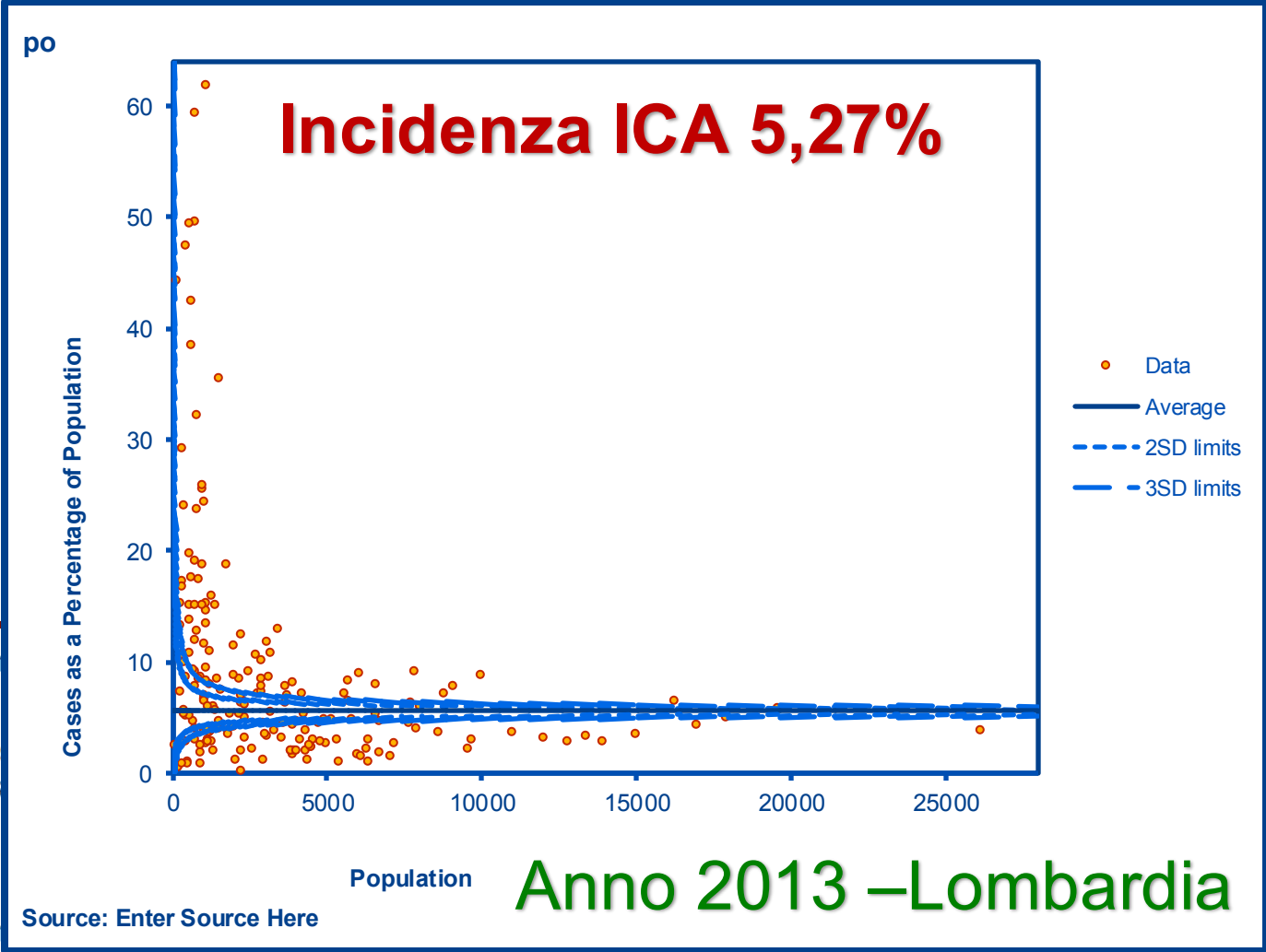
Organ System Category	ICD-9-CM Code	ICD-9-CM Code Description
Cardiovascular	458	Orthostatic hypotension
	458.8	Other specified hypotension
	458.9	Hypotension, unspecified
	785.5	Shock without mention of trauma
Hematologic	286.6	Defibrination syndrome
	286.9	Other and unspecified coagulation defects
	287.4	Secondary thrombocytopenia
	287.5	Thrombocytopenia, unspecified
Hepatic	570	Acute and subacute necrosis of liver
	573.4	Hepatic infarction
Neurologic	293	Transient organic psychosis
	348.1	Anoxic brain damage
	348.3	Encephalopathy
Renal	584	Acute renal failure
	518.8	Respiratory failure
Respiratory	786.03	Apnea
	799.1	Respiratory arrest



**SURVEILLANCE REPORT**

**Summary: Point prevalence survey of healthcare-associated infections and antimicrobial use in European hospitals 2011–2012**

2 July 2013



The results on HAIs and antimicrobial use presented in this report are based on acute care hospitals:

- On any given day, 5.7% of patients (= one in 18 patients<sup>2</sup>) in European hospitals had at least one HAI on any given day. (confidence interval: 4.5–7.4%). This translates into about 80 000 hospitals.
- Out of a total of 15 000 reported HAIs, the most frequently reported types (pneumonia: 19.4%; lower respiratory tract infections: 4.1%), surgical site infections (19.0%), bloodstream infections (10.7%), and gastro-intestinal infections were responsible for 48% of all gastro-intestinal infections, and for 3.6% of all HAIs.



## **Dalla teoria alla pratica: strumenti a supporto del lavoro dei Risk Manager**



### **Possibili imminenti sviluppi:**

- 1) Aggiornamento continuo degli Indicatori di Safety AHRQ (Nuove versioni con Upgrade a ICD10, Risk adjustment, valori di riferimento nazionali e regionali)**
- 2) Adozione del POA per il calcolo dell'indicatore di Safety composito e per la rilevazione delle ICA**
- 3) Triangolazione delle informazioni (segnalazioni volontarie e sinistri) provenienti dai DB strutturati**
- 4) Integrazione con altre fonti informative (Microbiologia, DB testuali)**

**Pietro Barbieri – UO Valutazione Outcome e Percorsi Clinici**  
**Direzione Sanitaria - Ospedale San Raffaele Milano**