MEDICINA
USP

EVENTOS ADVERSOS E INCIDENTES

EVENTOS ADVERSOS

- Definição:

Injúrias não intencionais decorrentes do cuidado prestado aos pacientes, não relacionadas à evolução natural da doença de base.

Obrigatoriamente acarretam lesões mensuráveis nos pacientes afetados; óbito ou prolongamento do tempo de internação.

(HIATT et al., 1989)

INCIDENTES OU QUASE-PERDAS

- Definição:

Complicações não intencionais decorrentes do cuidado prestado aos pacientes, não relacionadas à evolução natural da doença de base.

NÃO acarretam obrigatoriamente nos pacientes afetados: lesões mensuráveis; óbito ou prolongamento do tempo de internação.

(CHANG et al., 2005)

EVENTOS ADVERSOS

Importância:

- Indicam falhas na segurança de pacientes, refletindo o marcante distanciamento entre cuidado real e o cuidado ideal.

(THOMAS et al., 2000; McGLYNN et al., 2003; MANGIONE-SMITH et al, 2007)

- Maior desafio para o aprimoramento da qualidade da atenção à saúde.

(INSTITUTE OF MEDICINE, 1999, 2000; LEAPE et al., 2002; VINCENT, 2003; SARI et al., 2006; WHO2006, 2008)

The NEW ENGLAND JOURNAL of MEDICINE

The Quality of Health Care Delivered to Adults in the United States

McGlynn, Elizabeth A.; Asch, Steven M.; Adams, John; Keesey, Joan; Hicks, Jennifer; DeCristofaro, Alison; Kerr, Eve A.

Volume 348(26), 26 June 2003, pp 2635-2645

Table 5. **Adherence to Quality Indicators, According to Condition.***

Condition	No. of Indicators	No. of Participants Eligible	Total No. of Times Indicator Eligibility Was Met	Percentage of Recommended Care Received (95% CI)
Senile cataract	10	159	602	78.7 (73.3–84.2)
Breast cancer	9	192	202	75.7 (69.9–81.4)
Prenatal care	39	134	2920	73.0 (69.5–76.6)
Low back pain	6	489	3391	68.5 (66.4–70.5)
Coronary artery disease	37	410	2083	68.0 (64.2–71.8)
Hypertension	27	1973	6643	64.7 (62.6–66.7)
Congestive heart failure	36	104	1438	63.9 (55.4–72.4)
Cerebrovascular disease	10	101	210	59.1 (49.7–68.4)
Chronic obstructive pulmonary disease	20	169	1340	58.0 (51.7–64.4)
Depression	14	770	3011	57.7 (55.2–60.2)
Orthopedic conditions	10	302	590	57.2 (50.8–63.7)
Osteoarthritis	3	598	648	57.3 (53.9–60.7)
Colorectal cancer	12	231	329	53.9 (47.5–60.4)
Asthma	25	260	2332	53.5 (50.0–57.0)
Benign prostatic hyperplasia	5	138	147	53.0 (43.6–62.5)
Hyperlipidemia	7	519	643	48.6 (44.1–53.2)
Diabetes mellitus	13	488	2952	45.4 (42.7–48.3)
Headache	21	712	8125	45.2 (43.1–47.2)
Urinary tract infection	13	459	1216	40.7 (37.3–44.1)
Community-acquired pneumonia	5	144	291	39.0 (32.1–45.8)
Sexually transmitted diseases or vaginitis	26	410	2146	36.7 (33.8–39.6)
Dyspepsia and peptic ulcer disease	8	278	287	32.7 (26.4–39.1)
Atrial fibrillation	10	100	407	24.7 (18.4–30.9)
Hip fracture	9	110	167	22.8 (6.2–39.5)
Alcohol dependence	5	280	1036	10.5 (6.8–14.6)

* Condition-specific scores are not reported for management of pain due to cancer and its palliation, management of symptoms of menopause, hysterectomy, prostate cancer, and cesarean section, because fewer than 100 people were eligible for analysis of these categories. CI denotes confidence interval.

MEDICINA

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QUALIDADE DA ATENÇÃO À SAÚDE EM PEDIATRIA

The NEW ENGLAND JOURNAL of MEDICINE

The Quality of Ambulatory Care Delivered to Children in the United States

Rita Mangione-Smith, M.D., M.P.H., Alison H. DeCristofaro, M.P.H., Claude M. Setodji, Ph.D., Joan Keesey, B.A., David J. Klein, M.S., John L. Adams, Ph.D., Mark A. Schuster, M.D., Ph.D., and Elizabeth A. McGlynn, Ph.D.

Volume 357, 11 Oct 2007, pp 1515-1523

The Quality of Ambulatory Care Delivered to Children in the United States

- Crianças receberam em média 46,5%(IC95%: 44,5-48,4%) do cuidado indicado.
- Cuidado para condições agudas – 67,6% (IC95%: 63,9-71,3%) do cuidado indicado
- Cuidado para condições crônicas – 53,4% (IC95%: 50,0-56,8%) do cuidado indicado.
- Cuidado preventivo – 40,7% (IC95%: 38,1-43,4%) do cuidado indicado.

Table 1. **Selected Quality-of-Care Indicators and Classifications Used in the Study.***

Clinical Area	Example of Indicator from Clinical Area	Classification for Composite Scores			
		Type of Care	Function	Mode	Problem with Quality†
Acne (8 indicators)	Indicator 6: If isotretinoin is prescribed to postpubescent girls, a pregnancy test performed within 2 wk before the start of therapy should be negative.	For chronic condition	Treatment	Laboratory testing or radiography	Misuse
ADHD (5 indicators)	Indicator 4: Before a child is started on stimulant medication, the health care provider should measure the blood pressure.	For chronic condition	Treatment	Physical examination	Underuse
Adolescent preventive services (8 indicators)	Indicator 8: If abnormal height or weight velocity is found, a follow-up visit should occur.	Preventive	Follow-up	Encounter	Underuse
Allergic rhinitis (2 indicators)	Indicator 1: Treatment for allergic rhinitis should include at least one of the following: recommendation for allergen avoidance, antihistamine therapy, nasal corticosteroid therapy, or nasal cromolyn therapy.	For chronic condition	Treatment	Medication	Underuse
Asthma (17 indicators)	Indicator 14: Patients whose asthma medication is changed (new medication added or current dose decreased or increased) during one visit should have a follow-up visit within 3 wk.	For chronic condition	Follow-up	Encounter	Underuse
Depression (6 indicators)	Indicator 1: Once major depression has been diagnosed, treatment with antidepressants, psychotherapy, or both should begin within 2 wk.	For chronic condition	Treatment	Medication	Underuse
Diarrhea, acute (12 indicators)	Indicator 8: If the child was breast-fed while healthy, the health care provider should advise the parent to continue breast-feeding if the child is able to feed orally.	For acute condition	Treatment	Encounter	Underuse
Fever (15 indicators)	Indicator 4: If the infant appears to be severely ill or is found to be at high risk for sepsis between 28 and 90 days of age, the infant should be hospitalized.	For acute condition	Treatment	Encounter	Underuse
Immunizations (15 indicators)	Indicator 8: All children should have had one MMR vaccination between 1 and 2 yr of age.	Preventive	Treatment	Immunization	Underuse
UTI (6 indicators)	Indicator 2: To diagnose a UTI, positive culture of a urine specimen (collected by means of suprapubic bladder aspiration, catheterization, or "clean catch") is necessary.	For acute condition	Diagnosis	Laboratory testing or radiography	Underuse
Vaginitis and STDs (15 indicators)	Indicator 5: If a patient presents with any STD, HIV testing should be offered.	Preventive	Screening	Laboratory testing or radiography	Underuse
Well-child care (33 indicators)	Indicator 2: The child's weight should be measured at least 4 times between 1 wk and 1 yr of age and must be plotted on a growth curve or recorded along with the percentile for age or sex.	Preventive	Screening	Physical examination	Underuse

* ADHD denotes attention deficit–hyperactivity disorder; MMR measles, mumps, and rubella; UTI urinary tract infection; HIV human immunodeficiency virus; and STD sexually transmitted disease.
† Misuse was defined as the provision of care that has a high probability of resulting in harm. Underuse was defined as the failure to provide the indicated care. Overuse (which was found for indicators that are not listed here) was defined as the provision of care that is not needed.

Table 3. **Adherence to Quality Indicators, Overall and According to Type and Function of Care.**

Variable	No. of Indicators	No. of Eligible Children	Total No. of Times Indicator Eligibility Was Met	Weighted Adherence Rate (95% CI)
				percent
Overall care	175	1536	11,886	46.5 (44.5–48.4)
Type of care				
Preventive	57	1528	8,809	40.7 (38.1–43.4)
For acute condition	77	862	2,077	67.6 (63.9–71.3)
For chronic condition	41	394	1,000	53.4 (50.0–56.8)
Function				
Screening	55	1514	6,419	37.8 (34.6–41.0)
Diagnosis	32	378	1,018	47.2 (43.3–51.1)
Treatment	64	1056	2,981	65.9 (62.4–69.4)
Follow-up	24	754	1,468	44.7 (40.9–48.5)

Table 5. **Adherence to Quality Indicators, According to Clinical Area.***

Indication	No. of Indicators	No. of Eligible Children	Total No. of Times Indicator Eligibility Was Met	Weighted Adherence Rate (95% CI)
				percent
Upper respiratory tract infection	5	654	914	92.0 (89.9–94.1)
Allergic rhinitis	2	156	159	85.3 (79.6–90.9)
Acne	8	72	85	56.8 (45.4–68.2)
Fever	15	148	328	51.4 (43.2–59.6)
Childhood immunizations	15	769	2498	49.8 (45.6–54.0)
Urinary tract infection	6	84	144	47.8 (36.7–59.0)
Vaginitis and sexually transmitted diseases	15	59	169	44.4 (33.5–55.3)
Asthma	17	165	676	45.5 (42.3–48.7)
Well-child care	33	1022	4406	38.3 (34.2–42.5)
Acute diarrhea	12	76	419	37.8 (33.3–42.3)
Adolescent preventive services	8	532	1852	34.5 (31.0–37.9)

* Data are not reported for the management of prenatal care, otitis media with effusion, depression, or attention deficit–hyperactivity disorder, because fewer than 50 children were eligible for care processes related to these clinical areas.

MEDICINA

USP

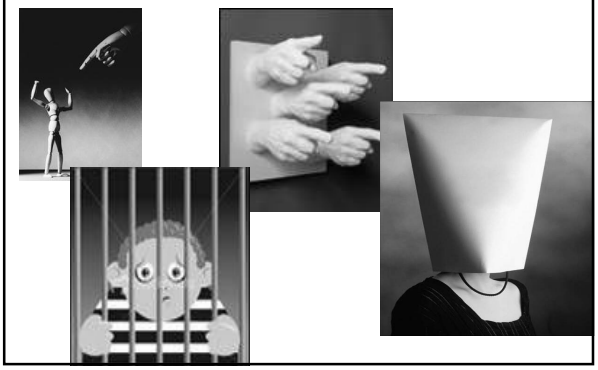
EPIDEMIOLOGIA

Eventos Adversos - Incidentes

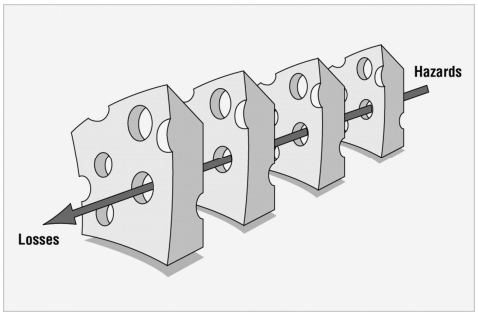
- Estudos **retrospectivos** – proporção **subestimada**
- Pacientes hospitalizados
- **3,0 a 58,0%** das admissões hospitalares.
- EAs evitáveis - **ERRO** - **50 a 70%** das ocorrências.
- Erro - abordagem **organizacional** x abordagem **individual**
- Medidas punitivas agravam o problema - **Medo**

BRENNAN et al., 1989; LEAPE et al., 1991; WILSON et al., 1995; ANDREWS et al., 1997; INSTITUTE OF MEDICINE, 1999, 2001; THOMAS et al., 2000; VINCENt et al., 2001; DAVIS et al., 2003; BAKER et al., 2004

Erro Humano - Abordagem Individual



ERRO HUMANO- ABORDAGEM ORGANIZACIONAL



(REASON, 1999; 2000)

EVENTOS ADVERSOS

- Limitações **permanentes ou graves** – **1/3 EAs**
- Óbito: 4,9 a 13,7% EAs (mortes evitáveis)
- **1.000.000 de EAs evitáveis** e **morte de 98.000 pessoas** por ano em decorrência de EAs evitáveis.

(INSTITUTE OF MEDICINE, 1999)

Custo dos Eventos Adversos

Reino Unido

£4 bilhões por ano

EUA

$17 - 29 bilhões por ano

World Alliance for Patient Safety. Forward Programme. **WHO**, October 2005, 2008

EVENTOS ADVERSOS

Potenciais Causas Imediatas

- EAs Cirúrgicos – 50% do total de eventos

  Negligência – 14% dos eventos

- EAs a Drogas - 20% do total de eventos

  Negligência – 18% dos eventos

EVENTOS ADVERSOS

Local de Ocorrência

- Centro cirúrgico – 40% do total de eventos

  Negligência – 14% dos eventos

- Quarto paciente – 27% do total de eventos

  Negligência – 40% dos eventos

- Pronto Socorro - 3% do total de eventos

  Negligência – 70% dos eventos

BRENNAN et al., 1989; LEAPE et al., 1991; WILSON et al., 1995; INSTITUTE OF MEDICINE, 1999, 2001; THOMAS et al., 2000; VINCENt et al., 2001

Fatores Associados a Eventos Adversos

- Extremos de idade
- Gravidade da doença de base
- Presença de comorbidades
- Internação em hospitais universitários
- Tempo de internação
- Intensidade do cuidado
- Fragmentação do cuidado
- Introdução de novas tecnologias
- Inexperiência
- Falhas de comunicação - 80%
- Atendimento de urgência (WEINGART et al., 2000)

Eventos Adversos em Pronto-Socorro

- Acesso irrestrito
- Superlotação
- Extrema diversidade na gravidade do quadro clínico
- Dificuldade de acesso à história clínica prévia
- Número limitado de profissionais
- Sobrecarga de trabalho
- Volume restrito de recursos
- Descontinuidade do cuidado
- Não valorização do profissional
- Falha de comunicação e supervisão

RISSER et al., 1999; BOREHAM et al., 2000; KYRIACOU et al., 2000; WALLIS, GULY, 2001

Eventos Adversos em Pronto-Socorro

Pronto-Socorro

1 ERRO A CADA 5 PACIENTES ATENDIDOS

LIMITAÇÕES LEVES

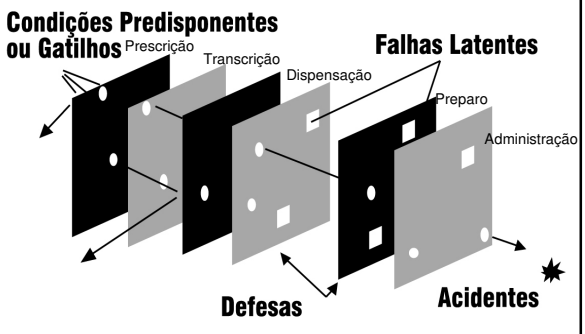
FORDYCE et al., 2003

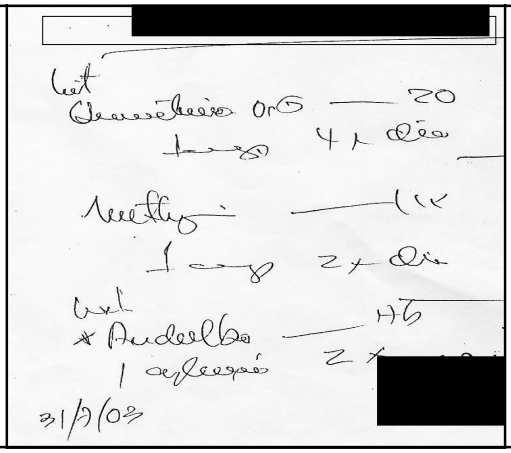
EVENTOS ADVERSOS

EVENTOS ADVERSOS A DROGAS

- 20% dos eventos adversos
- discrepância entre medicamentos realmente utilizados e medicamentos que constam nas receitas médicas
- aumento do número de medicações prescritas.
- deterioração de funções orgânicas exigindo correções de dose e introdução de novas drogas

(STEEL et al., 1981; LEAPE et al., 1991, 1995; BATES et al., 1995; LESAR et al., 1997aTHOMAS; BRENNAN, 2000; THOMAS et al., 2000a; FREEDMAN et al., 2002; ROTHSCHILD et al., 2002; CLASSEN, 2003; KANJANARAT et al., 2003).





EVENTOS ADVERSOS em UTIS

Importância:

- as unidades de terapia intensiva são também reconhecidas como setores muito vulneráveis à ocorrência de incidentes e EAs.

BOYLE et al., 2006

- 30% dos pacientes que faleceram em UTIs sofreram ao menos um erro durante o seu processo de atenção (autópsias). (PERKINS et al., 2003; COOMBES et al., 2004).
- 22% dos pacientes admitidos a UTIs cirúrgicas sofreram falhas diagnóticas.

(BROOKS et al., 2004)

- 30% dos pacientes internados em UTIS gerais sofreram algum tipo de evento adverso a drogas . (VAN DEN BEMT et al., 2002)
- 30% dos pacientes internados em UTIs sofreram ao menos um evento adverso evitável (decorrente de erros no processo de cuidado), sendo que metade destes eventos acarretou graves conseqüências nos pacientes afetados,

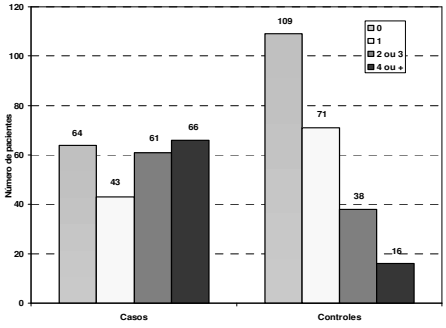
(LANDRIGAN et al., 2004; OSMON et al., 2004; TIBBY et al., 2004)

Adverse Events and Death in Stroke Patients Admitted to the Emergency Department of a Tertiary University Hospital

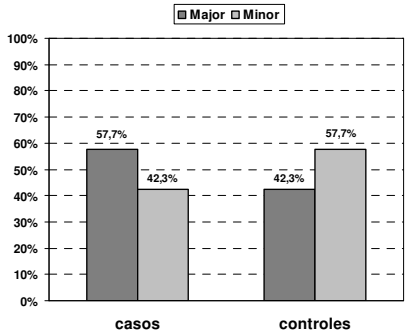
	TODOS	CASOS	CONTROLES
Número de EAs e	1.218	922	296
Média ± DP	2,6 ± 4,7	4,0 ± 5,9	1,2 ± 2,3
Número de EAs	650	538	101

Daud-Gallotti et al. Eur J Emerg Med 2005

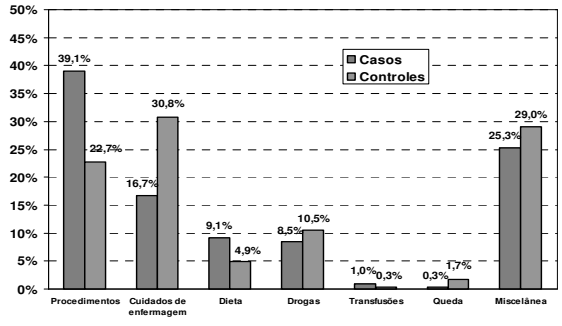
DISTRIBUIÇÃO de EAs em CASOS e CONTROLES



DISTRIBUIÇÃO DE EAs *MAJOR* E *MINOR* EM CASOS E CONTROLES

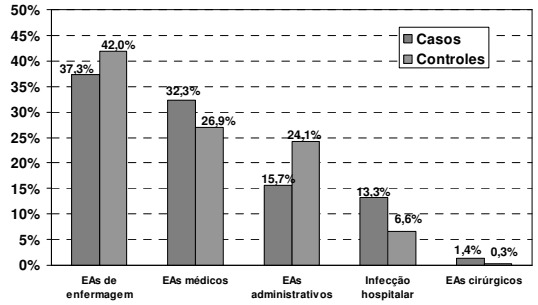


EAs - CAUSAS POTENCIAIS



PROCEDIMENTOS	CASOS	CONTROLES	TOTAL
Intubação	132	7	139
Exames	62	32	94
SNG	40	6	46
EV	29	5	34
SV	28	4	32
Cateteres	22	1	23
Ventilação mecânica	21	1	22
Cirurgia	15	2	17
Arteriografia	6	7	13
Endoscopia	2	0	2
Diálise	1	0	1
Outros	6	0	6
TOTAL	364	65	429

EAs – PROFISSIONAL ENVOLVIDO



EAs DE ENFERMAGEM (38,4%)

EAs ENFERMAGEM	CASOS	CONTROLES	TOTAL
Seguimento prescrição	189	90	279
Problemas SNG/SV/EV	57	9	66
Úlcera de decúbito	41	6	47
Extubação Acidental	37	1	38
Encaminhamento exames	18	8	26
Quedas	3	5	8
Outros	3	1	4
TOTAL	348	120	468

EAs MÉDICOS (31,0%)

EAs MÉDICOS	CASOS	CONTROLES	TOTAL
Hipoglicemia	114	34	148
Seguimento inadequado	68	35	103
Procedimentos	68	1	69
Drogas	25	5	30
Terapia não invasiva	10	1	11
Sangramentos	16	1	17
TOTAL	301	77	378

EAs ADMINISTRATIVOS (17,7%)

EAs ADMINISTRATIVOS	CASOS	CONTROLES	TOTAL
Medicações	49	25	74
Exames e Procedimentos	40	27	67
Equipamentos	30	13	43
Vagas	13	4	17
Hemoderivados	5	0	5
Outros	9	0	9
TOTAL	146	69	215

ANÁLISE MULTIVARIADA CONDICIONAL - EAs *MAJOR*

VARIÁVEL	OR	OR*	IC 95%	p
Cond. Clínica (ref-BEG)	16,67	13,99	4,10-47,75	<0,0001
N.Consciência (ref-alerta)	23,80	6,45	1,96-21,30	0,0022
No. Equipes (ref-1)	4,85	4,68	1,98-11,07	0,0004
EAs *major* (ref-0)	4,00	3,72	1,63-8,48	0,0018
Tempo de Internação (ref≤2dias)	2,88	1,15	0,53-2,48	0,7182

Daud-Gallotti et al. Eur J Emerg Med 2005

Adverse events in patients with community-acquired pneumonia at an academic tertiary emergency department: do they contribute to hospital death?

VARIABLE	OR*	95% CI	p
PSI scores (< 90)	27.6	3.65-208.49	0,001
All AEs (0)	3.25	1.32-8.03	0,010
Length of stay (< 2 days)	2.76	1.17-6.50	0,020

Daud-Gallotti et al. Infectious Diseases in Clinical Practice 2006

Principais desafios

- CULPA e MEDO – Medidas Punitivas

- Desenvolvimento de sistemas que tornem mais fácil a realização da ação correta e mais difícil a tomada de decisão errada .

Contato:

Dra Renata Gallotti

Disciplina de Emergências Clínicas

Faculdade de Medicina - USP

e.mail: renatagallotti@terra.com.br