PNEUMONIA PRACTICE GUIDELINES

WHERE ARE WE NOW

STEPHEN SOKALSKI DO FACOI

ADVOCATE CHRIST MEDICAL CENTER

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PNEUMONIA GUIDELINES

- THEY SEEMED LIKE A GOOD IDEA AT THE TIME.
- ARE THEY STILL?

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INDICATORS INCLUDED IN PNEUMONIA BUNDLE

- Oxygenation Assessment (Retired as of April 2009)
- Pneumoncoccal Screening and/or Vaccination
- Blood Culture 24-Hours Prior/after Arrival – ICU
- Blood Cultures performed in the ED prior to initial antibiotic
- Adult Smoking Counseling
- Antibiotic Within 8-Hours of Arrival (Retired as of October 2007)
- Antibiotic Within 6-Hours of Arrival
- Antibiotic within 4-hours of Arrival (Retired as of January 2009)
- Antibiotic Selection for ICU Patients
- Antibiotic Selection for Non-ICU Patients
- Influenza Vaccination Oct-March only

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Impact on CMS Pneumonia Bundle 2006-2008

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%

32%
59%
61%
74%
70%
73%
86%
75%
73%
90%
97%
94%

Top Decile Goal = 70
Top Decile Goal = 75%
Top Decile

System Goal = 57%
System Goal = 70%
System Goal = 82%

1st Qtr 06
2nd Qtr 06
3rd Qtr 06
4th Qtr 06
1st Qtr 07
2nd Qtr 07
3rd Qtr 07
4th Qtr 07
1st Qtr 08
2nd Qtr 08
3rd Qtr 08
4th Qtr 08

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TAILORED INTERVENTIONS TO IMPROVE ANTIBIOTIC USE IN HOSPITALS

JEROEN A SCHOUTEN

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TAILORED INTERVENTIONS

- LOCAL BUY-IN, OPINION LEADERS
- INVOLVE ALL STAKEHOLDERS
- DISSEMINATE THE PLANS
- CONVENE LOCAL CONSENSIS CONFERENCES

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TAILORED INTERVENTIONS

- ACADEMIC DETAILING
- PHARM D SUPPORT

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TAILORED INTERVENTIONS

- COMPUTER AIDED DECISION SUPPORT
- CPOE

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TAILORED INTERVENTIONS

- REMINDERS
- AUDITS
- FEEDBACK

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CHALLENGES TO SUCCESS

- VERY TIME CONSUMING
- INITIALLY EXPENSIVE
- PHYSICIAN RESISTANCE
- NURSING RESISTANCE
- IS RESISTANCE
- ER RESISTANCE

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CHALLENGES TO SUCCESS

- SEASONAL VARIATION
- TYPE OF PNEUMONIA, CAP,HCAP,HAP,VAP.
- LOCAL EPIDEMIOLOGY [NURSING HOMES, OTHER HOSPITALS].
- PREVIOUS OUT PATIENT ANTIBIOTICS

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ER CHALLENGES

- >85% OF PNEUMONIAS ADMITTED FROM ER
- LARGE ER STAFF TO STANDARDISE
- ARRIVAL TIME IN ER
- TRIAGE
- TIME TO PHYSICIAN EVALUATION
- TIME TO XRAY
- TIME TO XRAY REPORT
- TIME TO NOTIFICATION OR ER DOC

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ER CHALLENGES

- TIME TO ADMINISTRATION OF ABX
- AVAILABILITY OF ABX IN ER, OMNICELL
- BLOOD CULTURES PRIOR TO ADMINISTRATION
- ABGS, LABS, CULTURES, FLU STUDIES,SPUTUM STUDIES
- TIMING OF BLOOD DRAWS AND LAB RESULTS

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ER CHALLENGES

- PATIENT HISTORY
- SYMPTOMS
- PREVIOUS ANTIBIOTICS
- EXPOSURE TO OTHERS
- UNDERLYING DISEASE AND IMMUNE STATUS
- LESS THAN COMPLETE ECF RECORDS

ER CHALLENGES

- OVERCROWDING
- TRAUMA, MI, CHF, DKA, ASTHMA ETC.
- OUTBREAK SITUATIONS
- PEDS VS ADULTS
- FACILITY DESIGN

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GUIDELINES PERFORMANCE

- HOW DID WE IMPROVE?
- LEADING INDICATORS
- ER CHANGES
- XRAY TIMING
- XRAY INTERPRETATION, REPORT AT ONCE, INDETERMINATE CLASSIFICATION
- ANTIBIOTICS ON HAND
- HIGH PRIORITY DIAGNOSIS
- AUTOMATIC LABS, CHECK LIST

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GUIDELINES PERFORMANCE

- NURSING CONTRIBUTIONS
- HIGH PRIORITY TO ADMITS FROM OFFICE
- STATE OF THE UNIT REPORT
- PRIORITIZE PC AND FLU VACCINES
- ICU ADMITS VACCINES
- PHYSICIAN COMPLIANCE
- MAGNET NURSING INFLUENCE

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MISDIAGNOSIS OF CAP AND INAPPROPRIATE UTILIZATION OF ANTIBIOTICS

SIDE EFFECTS OF THE 4-H ANTIBIOTIC ADMINISTRATION RULE

CHEST

Manreet Kanwar et. al.

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EFFECTS OF 4H DEADLINE AND LINKS TO COMPENSATION

- 608 BED TEACHING HOSPITAL PRE AND POST GUIDELINE REQUIREMENT
- MORE PATIENTS HAD AN ADM. DIAGNOSIS OF CAP WITHOUT RADIOLOGIC ABNORMALITIES
- 28.5% VS 20.6% p=0.04
- MORE RECEIVED ABX.<4H AFTER TRIAGE
- 65.8% VS 53.8% p=0.007

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EFFECTS OF 4H STANDARD

- BLOOD CULTURES PRIOR TO ANTIBIOTICS INCREASED
- 69.9% VS 46.7%
- $p=0.001$
- FINAL DIAGNOSIS OF CAP DECREASED
- 58.9%VS75.9% $p<0.001$
- MEAN ANTIBIOTIC UTILIZATION INCREASED FROM 1.39 TO 1.66

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RESULTS OF 4H STANDARD

- WAS THERE ANY BENEFIT TO FOLLOWING THE STANDARD?
- WAS LINKING THE PERFORMANCE TO THE STANDARD AN ADVANTAGE FOR PATIENT CARE?
- THE 2007 IDSA GUIDELINES NOW SAY THAT THE ANTIBIOTIC SHOULD BE ADMINISTERED WHILE STILL IN THE ER. CMS HAS YET TO CHANGE THEIR STANDARD WHICH WAS LOWERED TO 6H

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CAP GUIDELINES REVISITED

- PERFORMANCE MEASURES IN COMMUNITY-ACQUIRED PNEUMONIA:CONSEQUENCES INTENDED AND UNINTENDED
- CID
- Thomas M File, Jr., and Peter A Gross

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TWO MEASURES FOUND TO BE POTENTIALLY ASSOCIATED WITH OVERUSE OF ANTIMICROBIALS

1. BLOOD CULTURES
2. TIME TO FIRST DOSE

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BLOOD CULTURES

- FREQUENTLY FALSE POSITIVE IN THIS SETTING
- GRAM POSITIVE COCCI/CLUSTERS
- COAG. NEG. STAPH.
- OVER USE OF VANCOMYCIN
- EXTEND LOS ONE DAY
- LIMITED USE
- NOW DRAW WITHIN 24H FOR PATIENTS ADMITTED TO ICU

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TIME TO FIRST DOSE OF ANTIBIOTIC

- INITIALLY FOUR HOURS
- CHANGED TO 6 HOURS
- NOW NECESSARY BEFORE TRANSFER FROM ER
- FOUR HOUR WINDOW HAS LED TO ADMINISTRATION OF ABX PRIOR TO CONFIRMATION OF PNEUMONIA

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REMEDIES

- REALISTIC LIMIT, NOT 100%
- OTHER WISE GAMING THE SYSTEM IS SEEN
- DEVIATION IS ACCEPTABLE IF THE REASON IS WELL DOCUMENTED IN THE CHART
- TARGET AN EVIDENCE-BASED BENCHMARK THRESHOLD FOR EACH INDICATOR

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CODEING CODEING CODEING

- ICD-9 CODES
- DEPEND ON THE ATTENDING PHYSICIAN'S DOCUMENTATION
- OFTEN ARE NOT REVISED TO REFLECT THE TRUE DIAGNOSIS BY DISCHARGE
- OFTEN DON'T REFLECT CONSULTANTS' OPINIONS OR LAB AND RADIOLOGY DIAGNOSES
- CAN LEAD TO HIGH UNSUPPORTED MORTALITIES

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GUIDELINE TYRANNY:PRIMUM NON NOCERE

Stephen G Baum and Anna Kaltsas

Clinical Infectious Disease 2008;46:1879-80

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GUIDELINE TYRANNY

- 1997 Single Publication "improved survival rates if ABX<8h after ER admission". 15% lower odds of mortality.
- CMS-sponsored slight improvement if <4h after ER admission.
- Critics said:
- Increased Mortality in CMS study if ABX<2h.
- ABX take several days to impact outcome!

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GUIDELINE TYRANNY

- Common atypical presentations of CAP in aged [altered mental status] may be markers of a poor prognosis.
- These co-morbidities in aged and atypical presentations, rather than delay, may be the causes of adverse outcomes.
- Early treatment of CAP may actually reflect EGDTSAS and lead to better outcomes.

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GUIDELINE TYRRANY

- These questionable guidelines now have been adopted as a standard of care and, in many states, one of the core measures for quality.
- Pay for performance has also been added to this far-reaching policy based on little evidence.

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GUIDELINE TYRRANY

- Pay for Performance based on suspect evidence causes harm by increasing the overuse of antibiotics.
- 29% of CAP cases actually have a viral infection
- 60% of hospitalized CAP cases never have an etiology proven.
- ½ of patients treated within 4h have pneumonia which is not susceptible to the ABX

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GUIDELINE TYRRANY

- 50% of patients who fail CAP treatment actually have CHF, interstitial pulmonary fibrosis, Wegner granulomatosis, PE, cryptogenic organizing pneumonia or other causes of the infiltrates.
- Overuse of ABX leads to c-diff, MDROs, ESBLs,VRE, fungi and other resistant organisms.

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GUIDELING TYRRANY

- THE ACCREDITING AND FUNDING AGENCIES SHOULD NOT USE THE APPLICATION OF THESE TIMING GUIDELINES TO MEASURE QUALITY OF CARE OR PAY FOR PERFORMANCE.

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IDSA GUIDELINE CONCERNS

100% compliance was never the goal !

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IDSA ISSUES

- Guidelines were written based on general recommendations for the majority of patients
- Patient variation and local epidemiology may justify variation in treatment.
- Pay for Performance neglects the medical variation.
- Appropriate High and Low thresholds need to be established.

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CMS PUBLICLY REPORTED MEASUREMENTS

NEW LEVELS OF COMPLEXITY

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CMS

- Readmission rates.
- CMS has asked hospitals to review CMS reports on readmissions for pneumonia, heart failure and heart attack for 7/1 2005 to 6/30/2008.
- There is no publicly available software to access accuracy of results on numerator cases.

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CMS

- ICD-9 coding conventions are often not reflective of the true patient status
- The codes reflect the attending physician's progress notes and not the opinion of consultants or lab data.
- Each code is arrived at then placed into a software program for highest payment rather than relative clinical value

CMS

- Even if a patient may not follow the prescribed care or instructions post discharge the hospital will still be assigned a re-admission within 30 days of discharge.

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CMS

- Hospitals are now required to influence the care of patients after discharge.
- This means coordination of care with ECFs, attending physicians and regular contact with families and healthcare providers.

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CMS

- The issue of hospice designation is confused in the bureaucracy.
- We are accused of assigning patients to hospice because inappropriate therapy fails.
- We are penalized for readmission in <30 days when the patients are readmitted to hospice on the same day.

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DANGER AHEAD POLITICS INTRUDE IN IDSA GUIDELINE FOR LYME DISEASE

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AG OF CONNECTICUT v IDSA

- 2006 LYME DISEASE GUIDELINES … "CONSPIRACY WHICH IS IN RESTRAINT OF TRADE OR COMMERCE."
- GUIDELINES ARE COMMONLY APPLIED BY INSURANCE COMPANIES TO REFUSE EXCEPTIONAL TREATMENT

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AG v IDSA

- GUIDELINES STRONGLY INFLUENCE PHYSICIAN TREATMENT DECISIONS
- CONCLUDE THAT CHRONIC LYME DISEASE IS NONEXISISTANT

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EFFECTS OF AG v IDSA

- OVERSIGHT BY PEOPLE WHO ARE NOT EXPERTS IN LYME DISEASE
- OMBUDSMAN
- NEW ID PHYSICIANS WHO HAVE NOT PUBLISHED ON LYME DISEASE AND DID NOT CONTRIBUTE TO THE 2006 GUIDELINES TO REVIEW AND REVISE GUIDELINES IF NECESSARY

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- EXPERTS WHO PROVIDE THEIR EXPERTISE ARE NOW DISCOURAGED TO DO SO FOR FEAR OF LITIGATION OR PUBLIC HARRASMENT BY SPECIAL INTEREST GROUPS
- WHAT HAVE WE COME TO?
- IS SCIENCE DEAD IN THE US EXCEPT FOR A FEW BELIEVERS?

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