



## How to Get Ready for Pay-for-Performance in OR

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## Presentation Outline:

- ◆ Introduction to Anesthesia Information Management Systems (AIMS)
- ◆ Description of anesthesia billing logistics
- ◆ New software to improve billing performance
- ◆ Application to clinical performance
- ◆ Pay-for-performance in the operating room

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## What Is An AIMS?

- ◆ Anesthesia Information Management System
  - Automatically records machine-delivered data
  - Records defined events (from pick-lists)
  - Records manually entered comments
- ◆ Replaces 'paper' record that is essentially unchanged from Cushing's 1894 invention



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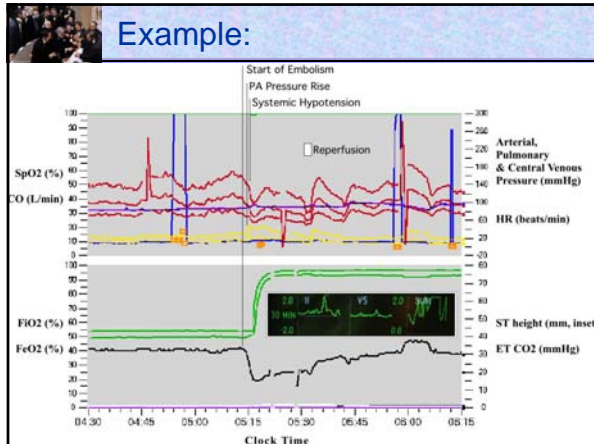
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- ### Routine AIMS Data:
- ◆ Administrative data
    - Times, patient identifiers, demographics
    - Attestations of compliance
  - ◆ Documentation of clinical events
    - Medications / interventions
  - ◆ Documentation of surgical events
    - Incision / end of surgery
  - ◆ Regular recording of physiologic data

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- ### Problem Statement:
- ◆ To obtain reimbursement, complete and error-free documentation is required.
  - ◆ We installed an Anesthesia Information Management System:
    - To facilitate correct data capture
    - To minimize documentation errors
    - To reduce costs & time to generate bills
  - ◆ After implementation, significant numbers of records contained errors precluding billing.
  - ◆ 1.3% of records could **NEVER** be billed.

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**After Installation:**

- ◆ Incidence of incomplete (unbillable) records the same if not more than during the 'paper record' era.
- ◆ No change in the error detection process:
  - *RECORDS PRINTED OUT & MANUALLY REVIEWED*
- ◆ No change in error notification process:
  - *RECORDS COPIED AND PLACED IN M.D. MAILBOXES WITH CORRECTION REQUESTS*




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**Paper Record Billing Process**

- ◆ Clinician leaves paper record with administrative staff at control desk
- ◆ Admin staff review for completeness and accuracy of billing data one day after DOS
- ◆ Path (Part 1) - Admin staff find errors in billing data:
  - Copy of record is made
  - Error is highlighted
  - Request to MD for correction via copy in MD mailbox
  - MD requests record from Medical Records Dept
  - MD makes changes to original record, signing and dating the correction
  - MD makes copy of revised original record for billing purposes
  - MD leaves copy of correction with Admin Staff

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~~Electronic~~ **Record Billing Process**

- ◆ Clinician ~~prints~~ paper record for administrative staff at control desk
- ◆ Admin staff review for completeness and accuracy of billing data one day after DOS
- ◆ Path (Part 1) - Admin staff find errors in billing data:
  - Copy of record is made
  - Error is highlighted
  - Request to MD for correction via copy in MD mailbox
  - MD requests record from Medical Records Dept
  - MD makes changes to original record, signing and dating the correction
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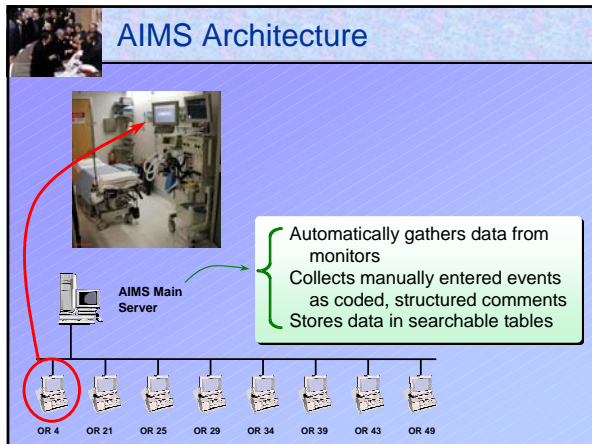
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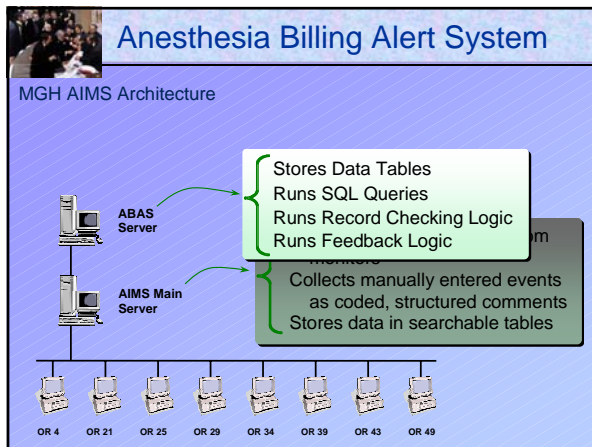
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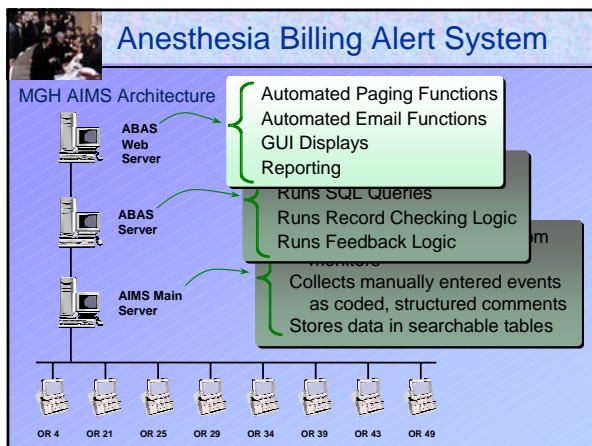
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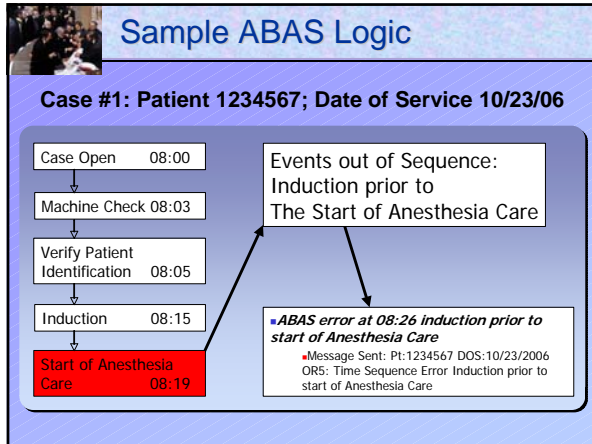
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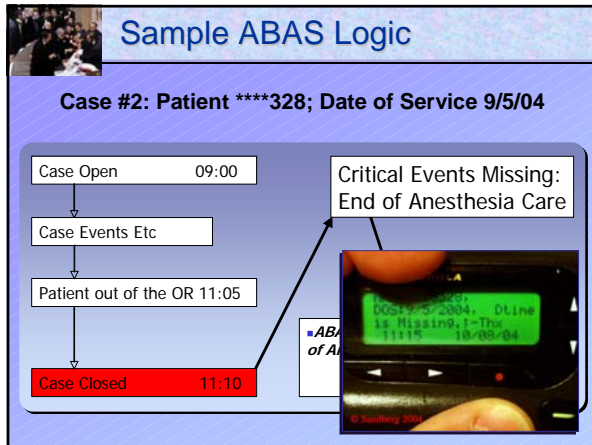
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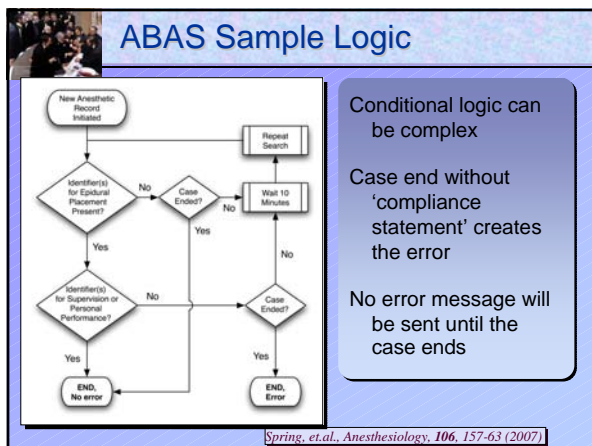
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## Financial Impact

- ◆ Development cost (one time): \$180,000.
- ◆ Maintenance: \$37,500 per year.
  - Based on
    - ✓ case volume,
    - ✓ contract rates
    - ✓ performance improvements
- ◆ Annual additional revenue is: **\$390,000** per year.
- ◆ We were also able to redeploy administrative personnel.

*Spring, et.al., Anesthesiology, 106, 157-63 (2007)*

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## Paper Record Billing Process

- ◆ Path (Part 2) - Record has no critical billing data errors (or has been corrected):
  - Admin Staff MANUALLY enter billing data into Access database
  - Reports are printed for medical coders to code cases
  - Coders MANUALLY enter data into Access database
  - Data are reviewed in Access
  - Charge entry reports are printed
  - Charge entry staff MANUALLY enter data into IDX
  - Charges are posted and created

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## Billing Process Post ABAS

- ◆ Cases checked for errors in near-real time by ABAS logic engine
- ◆ Error trapping & correction during or shortly after end of case
- ◆ Case is approved for billing 1-2 hours after completion
- ◆ Case electronically fed to Web-based coding GUI
- ◆ Coders code cases electronically
- ◆ Charge entry interfaces sends charges to IDX nightly
- ◆ Charge is processed and out the door

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### Result: Near-Total billing

◆ FY05: October 2004 - September 2005

FY05			
Billing Area	Total # of Cases	Unbillable Cases	% Rejected Cases
Main OR/ SDSU	31,669	10	0.03%
OMOR	6,755	2	0.03%
OB	3,215	1	0.03%
<b>Total</b>	<b>41,639</b>	<b>13</b>	<b>0.03%</b>




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### 'Pay for Performance'

- ◆ Rewards task completion, not successful exercise of medical judgement.
- ◆ 'Incentivizes' performance improvement.
- ◆ Brings the power of the purse to bear on the need to create robust processes heretofore NOT subject to financial incentives.
- ◆ Does NOT provide the tools to achieve success.

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### Pay for Performance Examples

Partnerships with physicians and hospitals on quality incentives

- ◆ Specialty P4P programs:
  - ◆ Focused on specialty care physicians
  - ◆ Early initiatives in Anesthesia, OB/Gyn, Cardiology
- ◆ Measures:
  - ◆ Technology & streamlined processes
  - ◆ Evidence based medical procedures
  - ◆ Clinical outcomes

Implemented: ABAS streamlines administrative billing process

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## Tools to Guide Performance

- ◆ Data collection systems
  - Anesthesia information management system (AIMS)
  - OR EHR
- ◆ Logic engines
- ◆ Quick feedback systems
  - Short latency
  - Hard to ignore
- ◆ Reporting systems
  - for monitoring
  - for cumulative feedback




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Implemented: ABAS streamlines administrative billing process

Driving adoption of best practices using ABAS to monitor documentation

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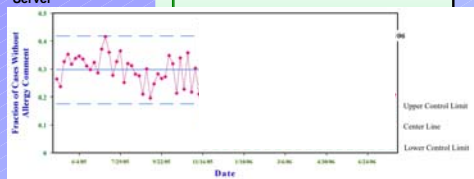
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## Documentation Performance

ABAS Web Server

Are key patient care events appropriately documented?



Upper Control Limit  
Center Line  
Lower Control Limit

OR 4 OR 21 OR 25 OR 29 OR 34 OR 39 OR 43 OR 49

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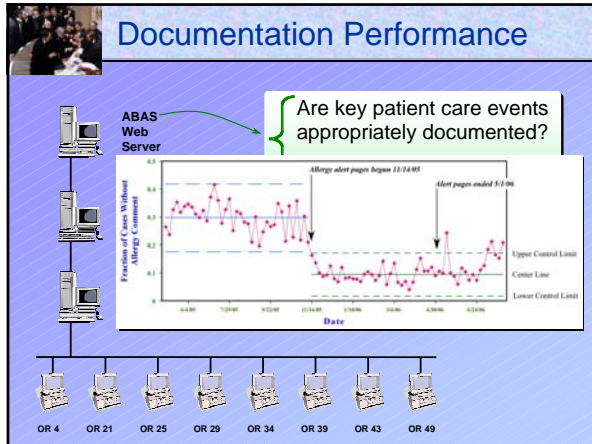
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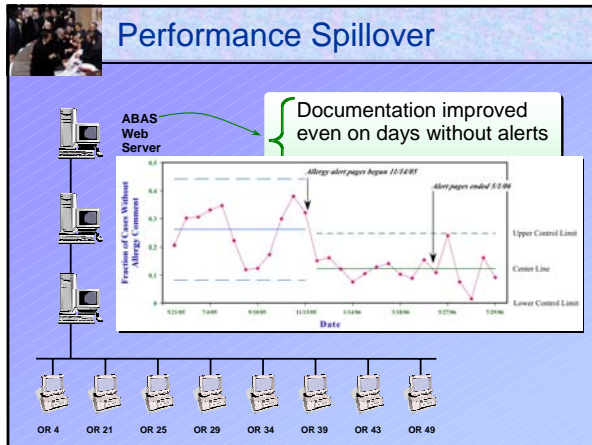
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### Pay for Performance Examples

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- Measures:
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  - Clinical outcomes

Implemented: ABAS streamlines administrative billing process

Driving adoption of best practices using ABAS to monitor documentation

Monitor device usage & performance; message clinicians

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## Extensions: Outcomes (& P4P)

- ◆ Perioperative antibiotic administration
- ◆ Intra-operative temperature management
- ◆ Glucose control (lab integration)
- ◆ DVT prophylaxis
- ◆ Pt. identification & Risk stratification for periop cardiac events
  - Perioperative beta-blockade performance
- ◆ ‘Best Practice’ anesthesia?
- ◆ HUGE opportunity for recursive CLINICAL process improvement

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## Summary

- ◆ Developed software to automatically detect documentation errors.
- ◆ Automatic alerts via hospital paging system.
- ◆ Reduced time to correct errors.
- ◆ Reduced number of charts that could never be billed because of uncorrected errors.
- ◆ Well received by staff.
- ◆ Permanent revenue stream due to more ‘billable’ charts.
- ◆ Independent of record keeping system- works with server based data tables.

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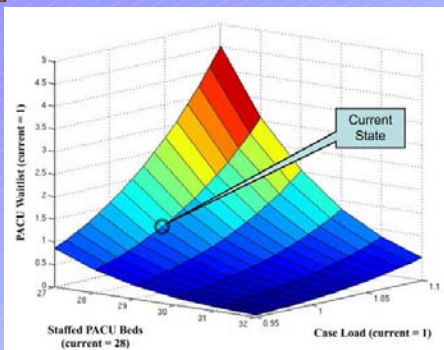
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## Workflow Matters




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- ### Workflow Management
- ◆ Focus down on individual procedure areas:
    - Is the equipment present & ready to go?
    - Is the intra-case process following the expected trajectory?
    - Intra-case drug safety.
  - ◆ Inter-Department over horizon process management.
    - Where is that patient we sent to an ancillary procedure?
    - Which patients go where from OR?

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- ### Over Horizon Traffic Management
- ◆ Which OR will get the one available PACU bed?
    - OR 1: ◆ Called 5 minutes ago.
    - OR 2: ◆ On the phone now.

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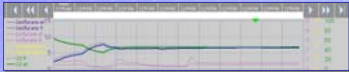
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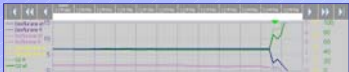
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**Over Horizon Traffic Management**

- Which OR will get the one available PACU bed?
  - Called 5 minutes ago.

OR 1: 

- On the phone now.

OR 2: 

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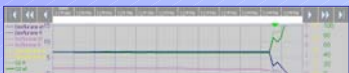
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**Over Horizon Traffic Management**

- Which OR will get the one available PACU bed?
  - Called 5 minutes ago.

OR 1:  **1**

- On the phone now.

OR 2:  **0**

**Remaining Cases:**

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**Summary**

- The same IT investments that are necessary to achieve good workflow will facilitate automatic process monitoring and reminders for clinical tasks.
- This is the lever that will get the needed IT infrastructure into the ORs.

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