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for Medical Quality

# National Priorities for Improvement:

## Standardization of Performance Measures, Data Collection, and Analysis

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*Oklahoma Foundation for Medical Quality*

*Contracting for Quality: Medicare's Quality Improvement Organizations*



# Presentation Outline

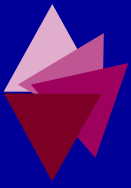
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- **National priorities for improvement**
- **Role of the Quality Improvement Organization Support Centers (QIOSCs)**
  - **Standardization of performance measures, data collection, and analysis**
- **Role of interventions**



# QIO 6<sup>th</sup> Scope of Work

- **Task 1 - National Projects**
  - Inpatient Priorities
- **Task 2 - Local Projects**
  - Alternate setting project
  - Disadvantaged population project
  - Local initiatives
- **Task 3 - Medicare+Choice**
- **Task 4 – Payment Error Prevention Program**
  - DRG validation and focused projects
- **Task 5 - Other mandatory activities**



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# Medicare National Priorities

## *QIO 6<sup>th</sup> Scope of Work*

- **Acute myocardial infarction**
- **Heart failure**
- **Pneumonia**
- **Stroke**
- **Breast cancer**
- **Diabetes mellitus**



# Medicare National Priorities

## *QIO 6<sup>th</sup> Scope of Work*

- **High impact diseases**
  - high morbidity, mortality, and hospitalization
- **High cost diseases**
- **Evidence-based standards of care**
- **Documented opportunity for improvement**
- **Amenable to QIO-facilitated interventions**
  - e.g., Cooperative Cardiovascular Project



# Role of the QIOSCs

- **Assemble expert panel**
  - monthly teleconference
- **Develop and finalize performance measures**
- **Develop sampling specifications**
- **Develop data collection tools**
  - pilot test and training
- **Develop analytic algorithms and SAS code**
- **Resolve abstraction questions and adjudicate inter-rater reliability tests**
- **Annotated clinical literature review**
- **Resource manual for QIOs**
- **Project rollout**
- **Collect and catalog QIO and provider interventions**
- **Respond to questions from QIOs and provider community**



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# **Role of the Quality Improvement Organization Support Centers (QIOSCs)**

- **Physician office - Virginia**
- **Disadvantage population - Tennessee**
- **Heart Care - Colorado**
- **Infectious Diseases - Oklahoma**
- **Home Health - Delmarva (Maryland/DC)**
- **Interventions - Delmarva (Maryland/DC)**
- **Outpatient Claims - Iowa**
- **Hospital Data Collection Tool - Iowa**
- **Nursing Home - Rhode Island**
- **Nursing Home Data - Colorado**
- **Communications - TBA**



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# QIO 6<sup>th</sup> Scope of Work

## *Special Studies*

### ■ Infectious Disease Quality Improvement Organization Support Center (QIOSC)

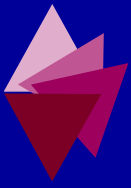
#### – Medicare National Pneumonia Project

- CDC/CMS Nursing Home Immunization Standing Orders Project
- CDC Respiratory Disease Burden

#### – Medicare Surgical Infection Prevention Project







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# National Expert Panel

## *Surgical Infection Prevention Project*

- American College of Surgeons
- American Hospital Assn.
- Assn. Professionals in Infection Control
- Infectious Diseases Society of American
- Jt. Comm Accred Healthcare Organizations
- Society for Healthcare Epidemiology of America
- Association of PeriOperative Registered Nurses
- Surgical Infection Society
- VHA, Inc.
- American Academy of Orthopedic Surgeons
- American Society of Anesthesiologists
- American Society of Health System Pharmacists
- American Geriatrics Society
- Society of Thoracic Surgeons
- Premier
- Centers for Disease Control and Prevention\*

\*Part of steering committee



# Antibiotic Recommendations

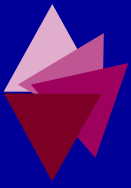
## *Published Guidelines*

- American Society of Health System Pharmacists
- Infectious Diseases Society of America
- The Hospital Infection Control Practices Advisory Committee
- Medical Letter
- Surgical Infection Society
- Sanford Guide to Antimicrobial Therapy 2002



# Selected Surgical Procedures

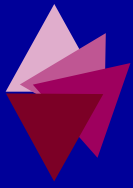
- **Cardiac**
- **Coronary Artery Bypass Graft (CABG)**
- **Colon**
- **Hip & Knee Arthroplasty**
- **Abdominal & Vaginal Hysterectomy**
- **Vascular Surgery:**
  - **Aneurysm repair**
  - **Thromboendarterectomy**
  - **Vein Bypass**



# Standardized Performance Measures

- Surgical patients who received prophylactic antibiotics within 1 hour prior to surgical incision\*
- Surgical patients who received prophylactic antibiotics consistent with current guidelines
- Surgical patients whose prophylactic antibiotics were discontinued within 24 hours after surgery end time

\*Within 2 hours if vancomycin is required



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# Standardized Data Collection

CMS Abstraction And Reporting Tool (Version 1.2rc14) - Any Hospital USA

Abstraction Notebook

File Tab Placement Help

WELCOME

New

Edit

Management Reports

Import Data

Export Data

User Setup

Preferences

Provider Setup

**CMS/CART**  
CENTERS for MEDICARE & MEDICAID SERVICES

CMS Abstraction & Reporting Tool

Tab or mouse click to maneuver through the tool. You must tab off of text boxes and drop-down fields. Use the mouse to select items from drop-down fields.

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# Standardized Data Collection

Oklahoma State University  
for Medical Research

CMS Abstraction And Reporting Tool (Version 1.2rc14) - Any Hospital USA

Surgical Infection Prevention - 448686911A - Minney Mouse - 2002-02-01 Retrospective PENDING

File Help

04:42

OR Information Medications Infections Diagnostics Optional Data Elements  
Core Demographics Administrative Information Demographics Diagnosis

25 - Was any surgical procedure of interest performed during this admission?

Yes  
 No

26 - Which procedure was performed first during the admission?

CABG  
 Cardiac Surgery  
 Hip Arthroplasty  
 Knee Arthroplasty  
 Colon Surgery  
 Hysterectomy  
 Vascular Surgery

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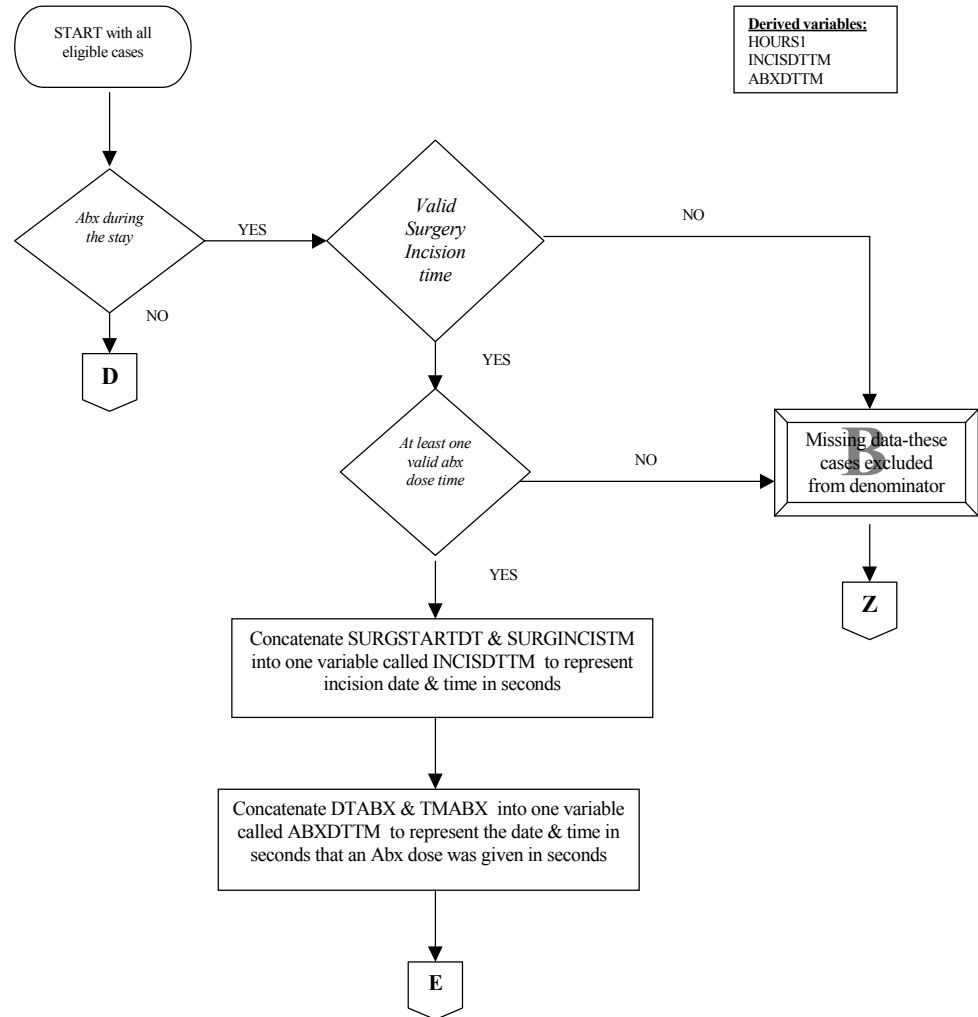
# Standardized data analytic algorithms and statistical programs

## SIP-1: Prophylactic Antibiotic Received Within 1 Hour Prior to Surgical Incision\*

**Numerator:** Number of surgical patients who received prophylactic antibiotics within 1 hour of surgical incision

\*(or within 2 hours if receiving vancomycin due to beta-lactam allergy).

**Denominator:** All selected surgical patients.

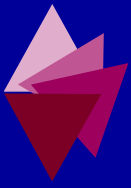




# Standard Reporting

<i>National</i>			
<b>SURGICAL INFECTION PREVENTION</b>			
<i>Medicare Quality Improvement Project</i>			
<i>Preliminary Baseline Data for the United States</i>			
<b>General Exclusion Process and Time Frame</b>			
		<u># of cases</u>	<u>percent</u>
<b>Number of Cases in Data Set</b>		22140	100.0
<b><u>General Exclusions</u></b>			
Surgery of interest not performed this stay		101	0.46
Patient was being treated for infection pre-op		1009	4.56
All ABX start dates missing for ABX during stay		2	0.01
Patient was on antibiotics prior to arrival*		869	3.93
ABX given more than 24hrs prior to incision*		815	3.68
Colon surg w/ 4643 as only qualifying proc code		27	0.12
<b>Cases eligible for the project</b>		19317	87.25
		<u>begin date</u>	<u>end date</u>
<b>Time Frame of current data</b>		01/01/2001	10/14/2001
*colon surgery patients taking prophylactic oral antibiotics only prior to arrival or more than 24 hours prior to incision were not excluded for these two criteria			





# Standard Reporting

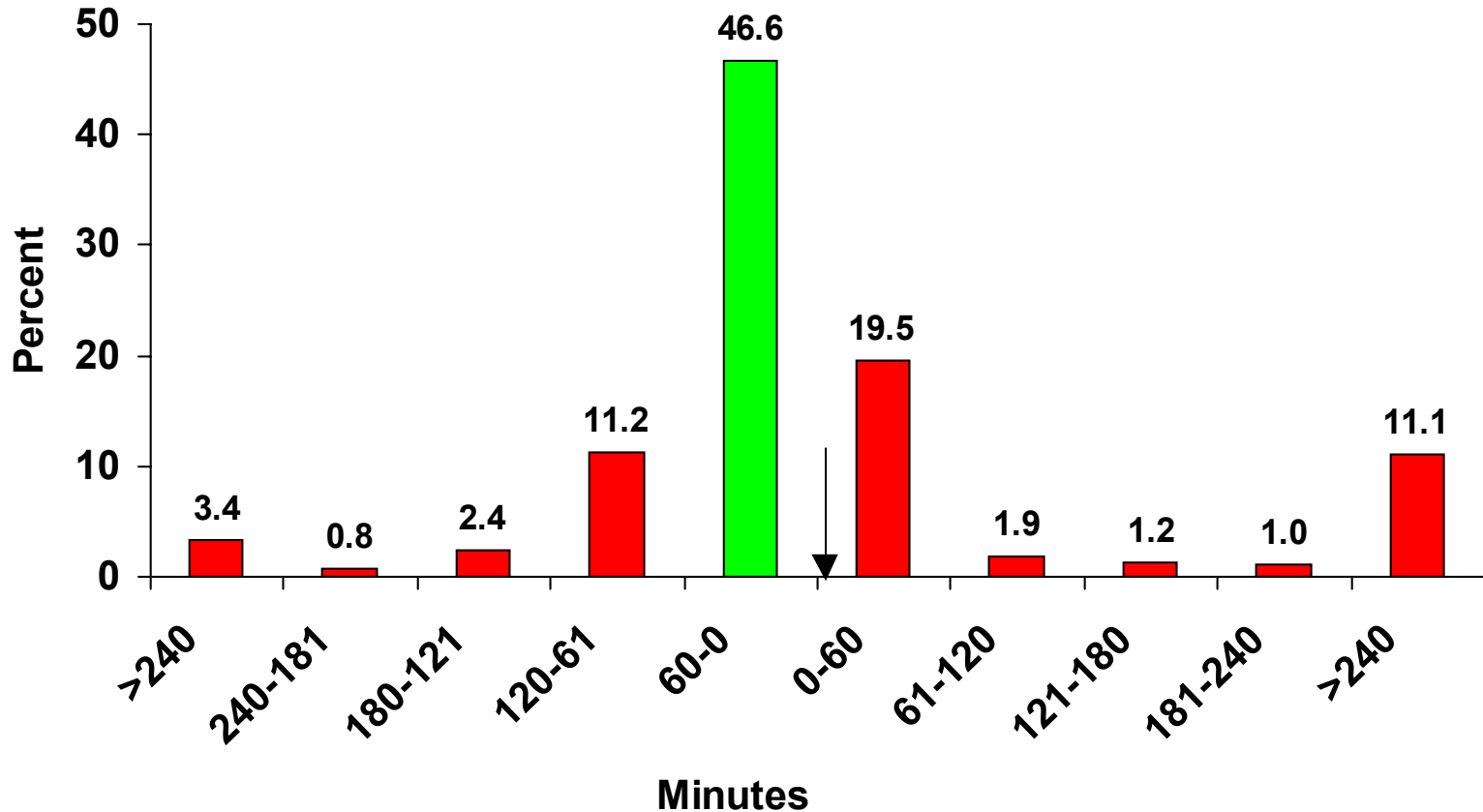
<b>Performance Measure #1: Proportion of patients who receive antibiotics within 1 hour before surgical incision (or within 2 hours before incision if vancomycin is used for prophylaxis*)</b>				
		<u>num/den</u>	<u>percent</u>	
<b>Performance Measure #1 Result:</b>		9068/19131	47.4	
<b>Stratified by NNIS Basic SSI Risk Index:</b>				
	0	2485/4666	53.26	
	1	5288/11162	47.38	
	2	1276/3246	39.31	
	3	19/57	33.33	
<b>Detailed Information</b>				
<b><u>Time Intervals Prior to Incision (in min)**:</u></b>		<b><u># of cases</u></b>	<b><u>percent</u></b>	
	0 - 60	8896	46.50	
	61 - 120	2159	11.29	
	121 - 180	472	2.47	
	181 - 240	149	0.78	
	> 240	657	3.43	



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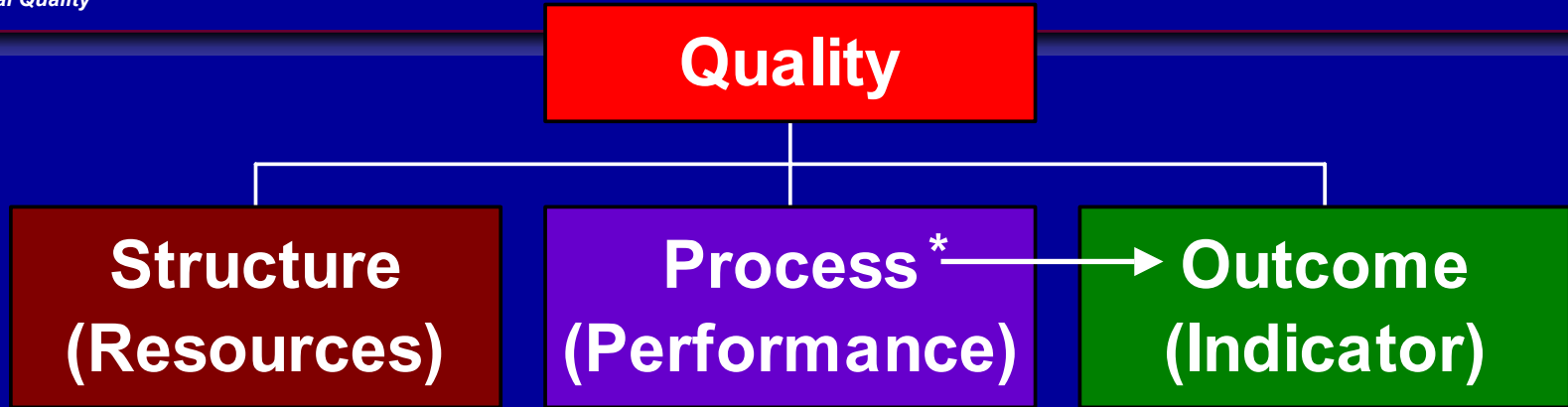
# Preliminary National Results

## *Antibiotic Within 1 hour Before Incision*





# Process vs. Outcomes

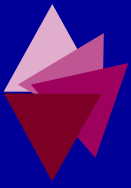


- trained staff
- infection control
- sterile instruments
- environment
- surveillance
- gowns, gloves, etc.

- **antibiotic timing**
- **antibiotic selection**
- **antibiotic stopped**
- blood sugar control
- high flow oxygen
- normothermia

- wound infection rate
- length of stay
- mortality
- readmission
- antibiotic resistance
- disability
- quality of life

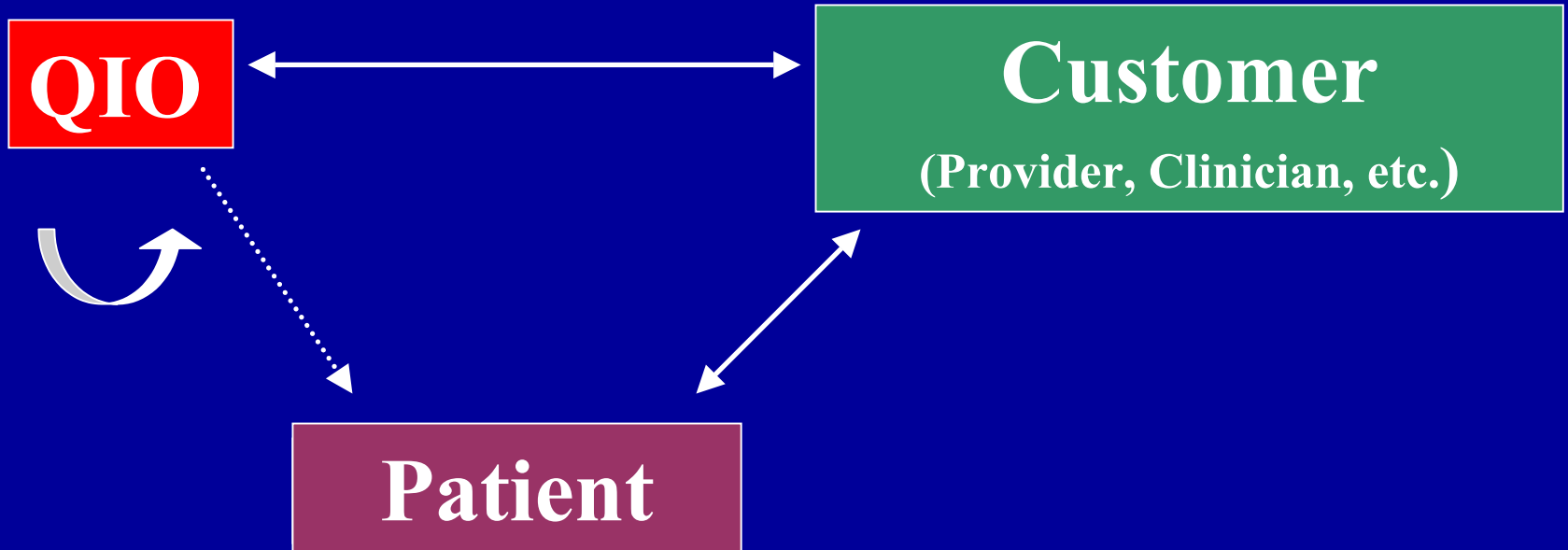
\* Evidence linking process to improved outcomes of care.



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# Role of Interventions

## *Opportunities for Improvement*





# Systems-based Interventions

- **CME and didactic programs have little impact on changing behavior!**
  - **Effective strategies include**
    - reminder systems
    - standing orders
    - clinical pathways or protocols
    - opinion leaders and physician champions
    - self-monitoring and feedback
  - **Administrative support**

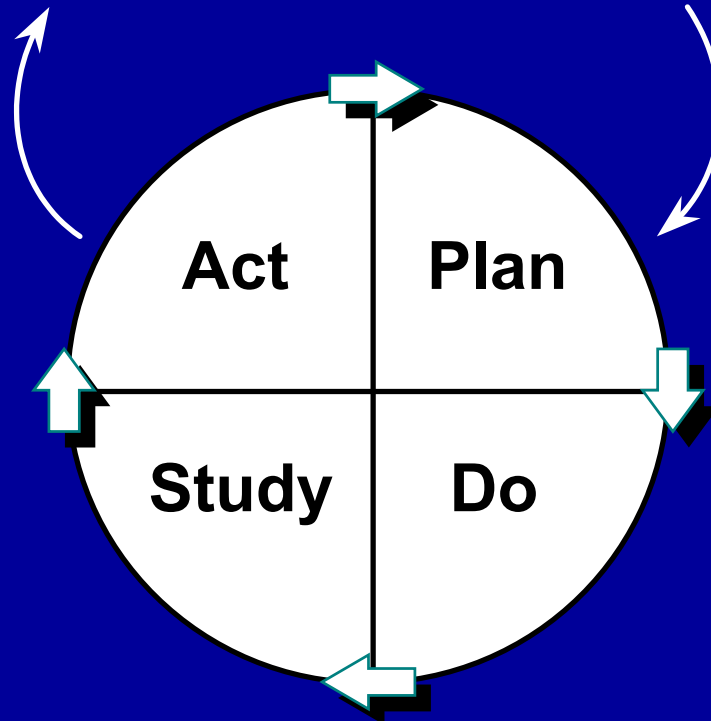


# Model for Improvement

**What are we trying to accomplish?**

**How will we know that a change is an improvement?**

**What change can we make that will result in improvement?**



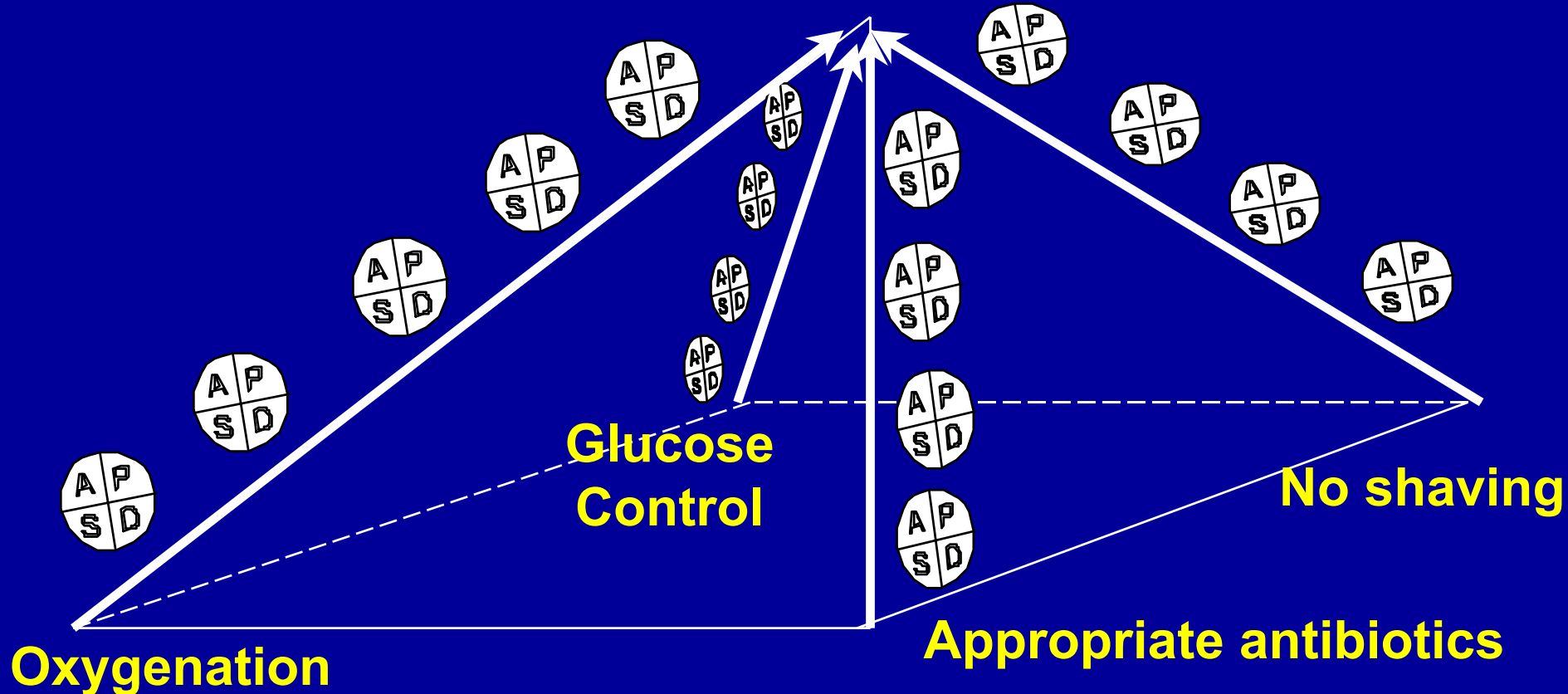


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# Surgical Infection Prevention

*Rapid cycle, small changes*

**Goal: Reduced  
Surgical Infections**

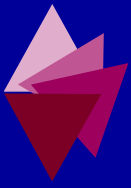




# *Contracting for Quality: Medicare's Quality Improvement Organizations*

- **1992 through 5th Scope of Work**
  - Based on continuous quality improvement
  - Support rather than punitive interactions
  - Locally developed projects predominantly
    - measures and data collection not standardized
    - difficult to demonstrate program effectiveness
    - (Cooperative Cardiovascular Project)
  
- **6th Scope of Work**
  - National priority clinical topics
    - measures and data collection standardized
    - program impact measurable
    - performance-based contracting
    - Support QIOs become resource





# *Contracting for Quality: Medicare's Quality Improvement Organizations*

## ■ 7th Scope of Work

- Continued national priorities and standardization
  - close alliance with JCAHO and NQF
- New settings (nursing homes and home health)
- Emphasis on self-collection of data by providers
- Communication strategy with public reporting



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