

# Quality Improvement and Evidence-Based Practice in the Prevention of Surgical Infections - Changing the National Prikaz

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# Problem: the Background

- **The true incidence of surgical site infections (SSI) is unknown**

- St.-Petersburg, 1999: official SSI rates  
0.11 - 0.94
- 11 hospitals (47,860 surgical interventions) reported total absence of SSI

- **USSR MoH Prikaz # 720 dated July 31, 1978**

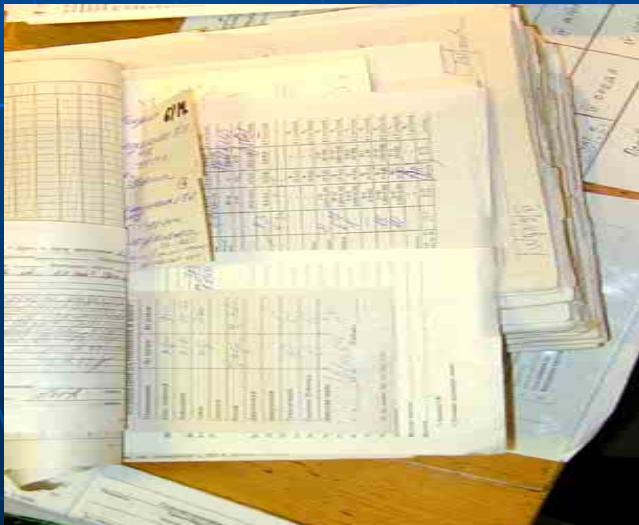
- Regulatory approach
- Considers only cross-contamination
- Primary focus - on environmental infection control
- No mechanisms to obtain reliable data
- Not evidence-based (often contradictory)

# Project Objectives

1. Development of new approaches to studying of SSI rate
2. Study of actual SSI rate and risk factors, and quantitative evaluation of the quality of preventive measures
3. Development of clinical practice guidelines and their practical implementation
4. Development of modern regulations for SSI prevention using evidence-based medicine (EBM) principles
5. Training of specialists in SSI epidemiological surveillance methods and preventive measures, including utilization of modern information technologies

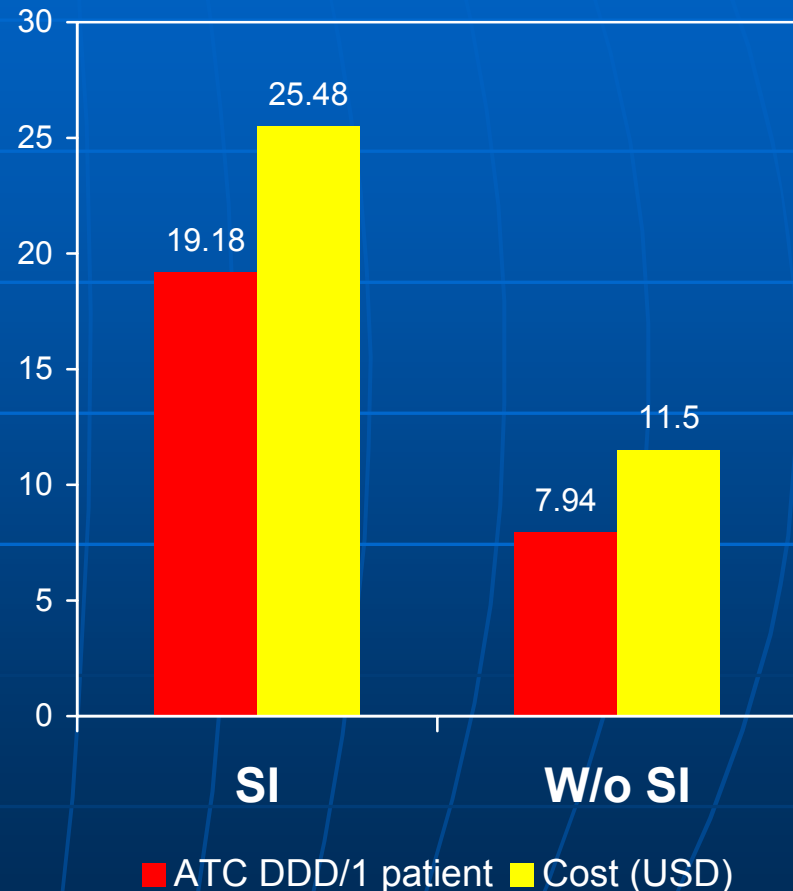
# Development of New Methods for Studying SSI Rates

- Active epidemiological surveillance using standard definitions for a NNIS case
- Analysis of stratified indicators (NNIS risk index, SIR)
- New technology for active identification of cases



# Studying Actual SSI Rate and Risk Factors; Quantitative Evaluation of Quality and Cost of Measures Taken

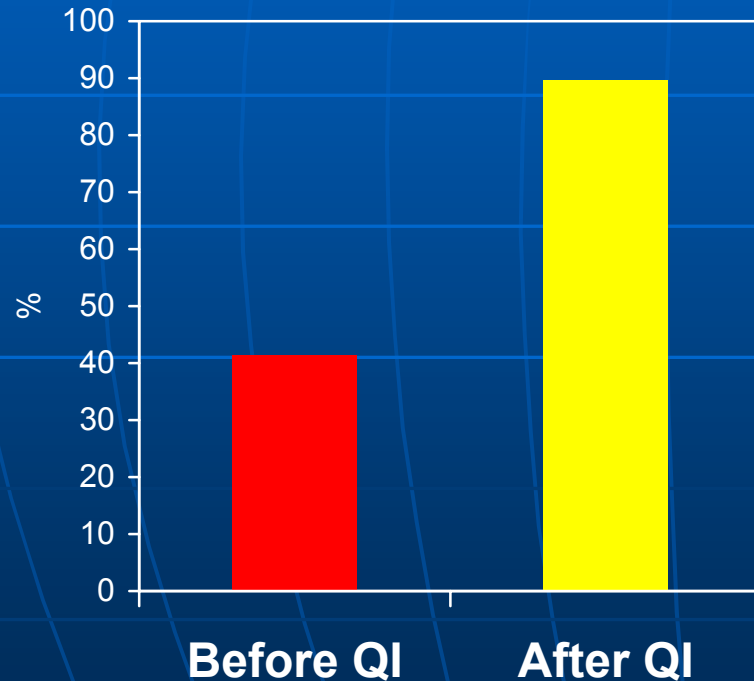
- SSI rates after the majority of surgeries are **2-4 times higher** compared to those in the US and Western Europe
  - Similar to the situation in the 70's before the introduction of perioperative antibacterial prophylaxis (PAP)
  - Average prevalence of PAP is 15-25%
  - Average duration of antibacterial prophylaxis in patients without SSI is 4-5 days



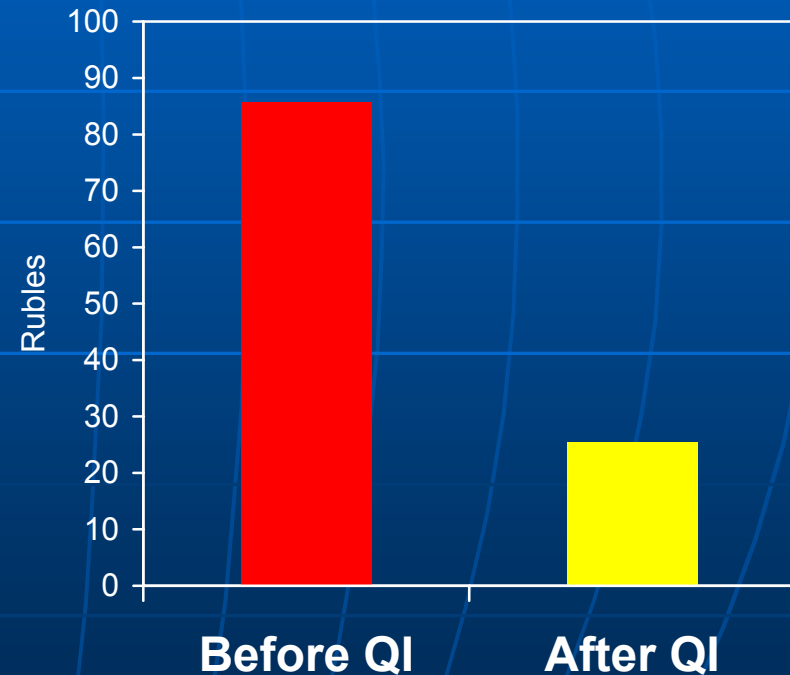
# Implementation of CPG in an Maternity Ward

## Outcomes of Quality Improvement Interventions

### Frequency of PAP



### Cost of PAP (per 1 C-section)



PAP - perioperative antibacterial prophylaxis  
C-section - Cesarean section

# “Quality means compliance with requirements or guidelines”

(Phil Crosby, 1979)

- A new draft Prikaz on SSI prevention
  - The entire spectrum of SSI
  - The entire spectrum of risk factors
  - Proposed measures are evidence-based
    - Modern epidemiological surveillance principles
    - Perioperative antibacterial prophylaxis
    - Modern isolation- and restriction-focused measures
    - ...
  - **Victim to unjustified compromises**

# Obstacles

- Traditional structure
  - No distinction between evidence-based and regulatory components
  - No ranking of levels of evidence
  - No references to sources of evidence
- Insufficient training for specialists in EBM and clinical epidemiology
- Uncoordinated actions/conflict of interests of various specialists
- Struggle between ideas: a quality improvement concept vs. regulatory approach



# Quality: “To do correct things correctly”

- March 2002: an organizational meeting addressing the improvement of state sanitary-epidemiological standards on prevention of nosocomial infections
  - Setting up a temporary working group
- Guidelines on developing evidence-based regulatory documents
- New regulatory model documents
  - Sanitary Rules and Norms (SanPiN): General principles of the prevention of nosocomial infections
  - SanPiN: SSI prevention
  - SanPiN: Infection control in hemodialysis units

# Key Success Factors

- National and international collaboration between various specialists
- Improved training for clinicians in EBM and clinical epidemiology
- Opportunity to develop preventive measures based on actual data obtained by using methods meeting international standards
- Demonstration of cost-effectiveness of rational approaches to SSI prevention
- Subsiding unjustified administrative measures; transition from the external regulatory approach to the ideology of the continuous quality improvement of medical care