Patient Safety
Healthcare- Associated Infection
and
Joint Commission International

December 20, 2019

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Who I am

- Joint Commission International consultant

- Director

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  Mediplex Sejong Hospital
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- ABIM-certified Internist, Infectious Diseases Specialist

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Joint Commission International (JCI)

Mission

To improve the safety and quality of care in the international community

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JCI-Accredited Organizations

1095

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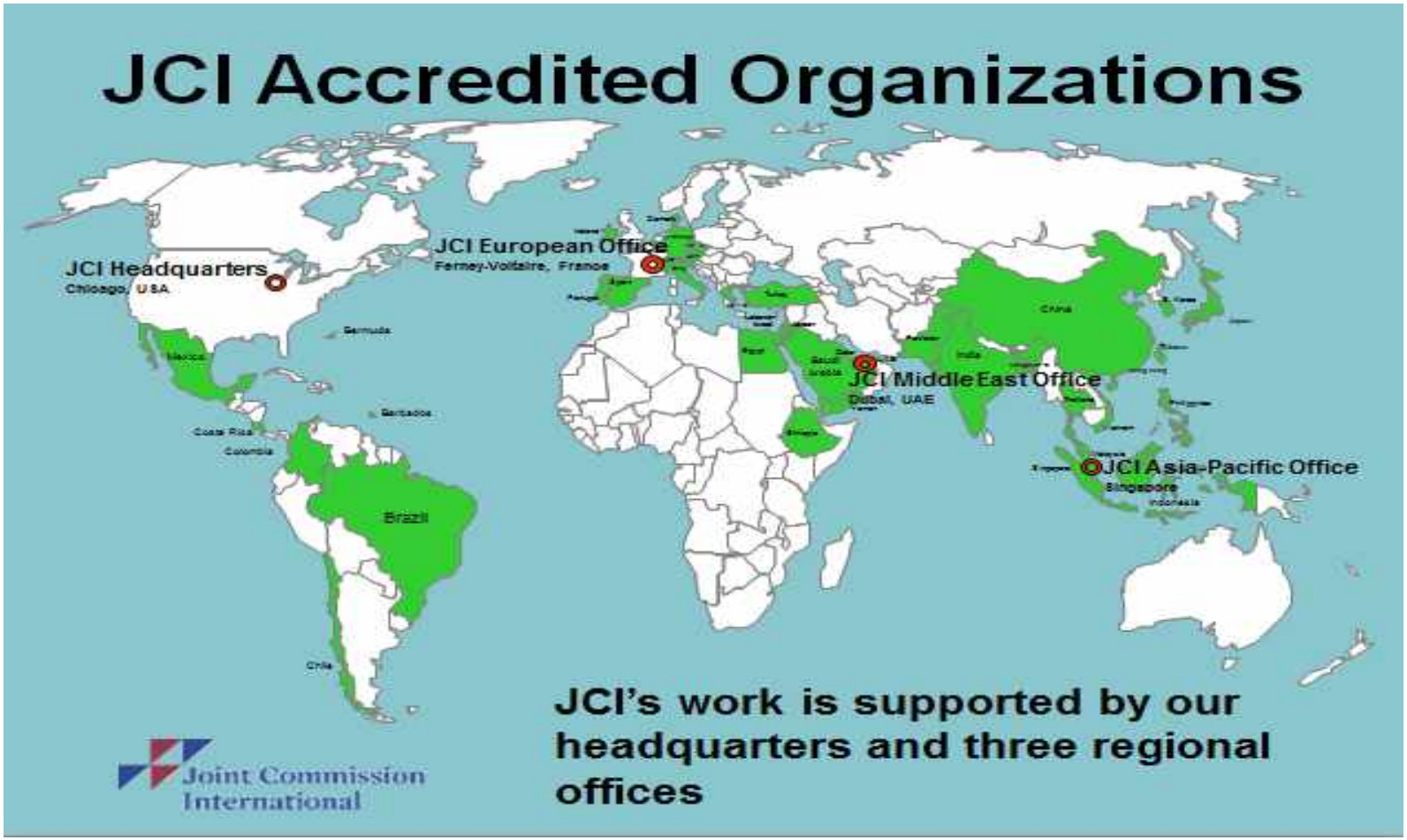
Joint commission International Accreditation



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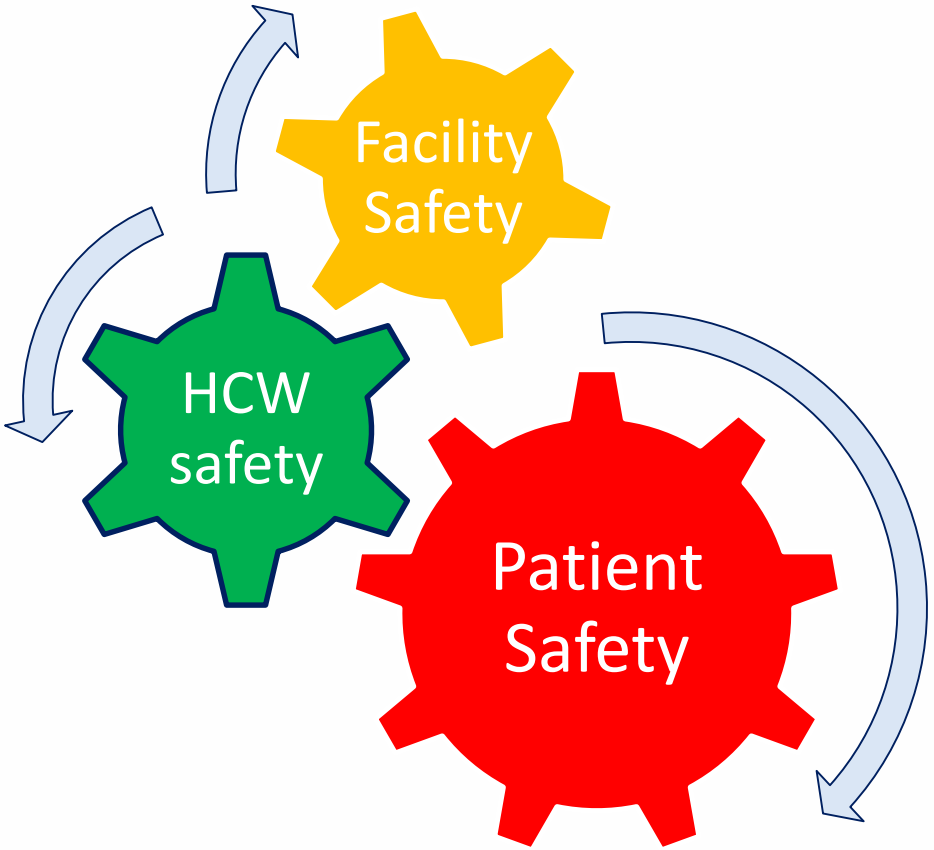
HCAI is a major problem for patient safety

WHO



HCW: Healthcare worker

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Healthcare-associated infection (HCAI)

- HCAI is a major problem for **patient safety**

  - Prolonged hospital stay, long-term disability
  - Increased resistance of microorganisms to antimicrobials
  - Massive additional financial burden, high costs for patients, their families, and excess deaths

World Health Organization, Report on the Burden of Endemic Health Care-Associated Infection Worldwide, 2011

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Magnitude of HCAIs

HCAI surveillance is already a challenging task in highly resourced settings, it may often appear an unrealistic goal in everyday care in developing countries (WHO).

- Prevalence – 14~20%
- Surgical Site Infection rate – 19~31%
- Neonatal infections — 3–20 times higher

World Health Organization, Report on the Burden of Endemic Health Care-Associated Infection Worldwide, 2011

Multidrug-resistant Organisms

Higher mortality than war or famine:

- Globally - 700,000 deaths/year
- Europe – 25,000 deaths/year (15 billion Euro)
- USA – 23,000 deaths, 2 million infected/year ($ 45 billion)**

* IHI ** CDC

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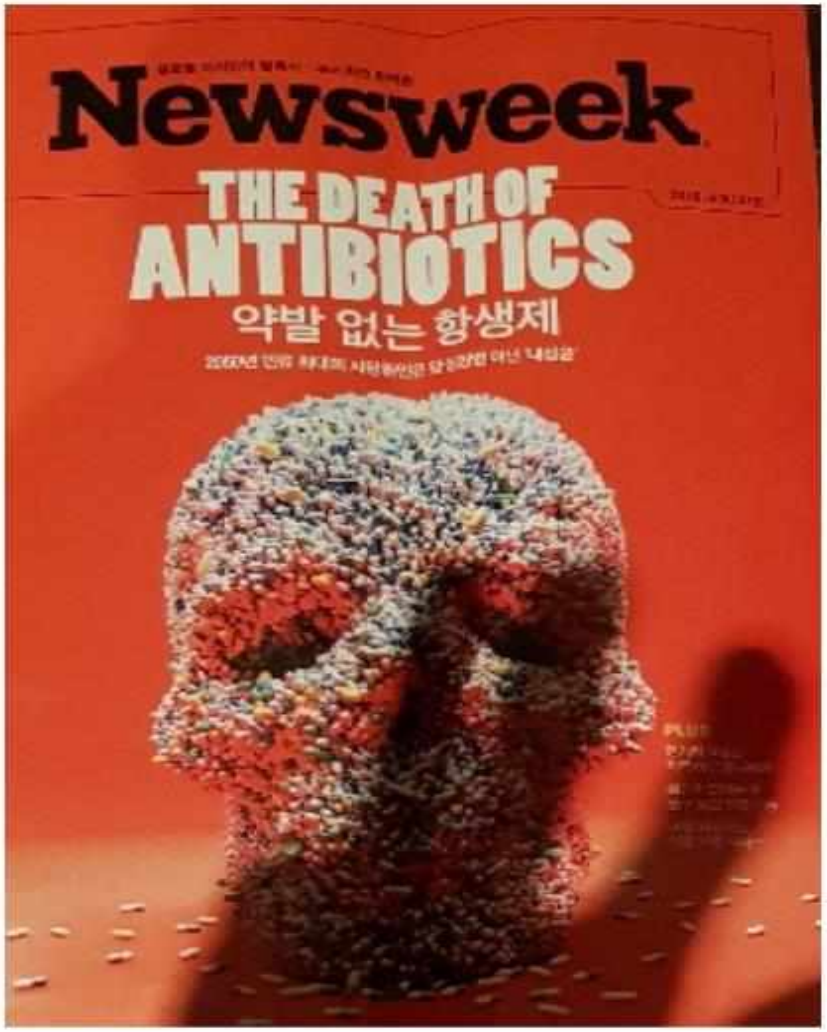
Death of Antibiotics = End of Humanity



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HCAIs

The Big Five

- Central Line Associated Blood Stream Infection (CLABSI)
- Surgical Site Infection (SSI)
- Ventilator Associated Pneumonia (VAP)
- Catheter Associated U.T.I. (CAUTI)
- C. difficile-associated disease (CDAD)

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JCI Accreditation Standards for Hospitals

Sixth Edition

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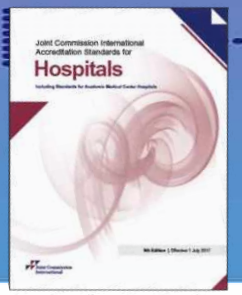
Prevention and Control of Infections



- Responsibilities
- Resources
- Goals of the program
- Infetious Waste
- Food services
- Construction Risks
- Transmission of Infections
- Quality Improvement and Program Education

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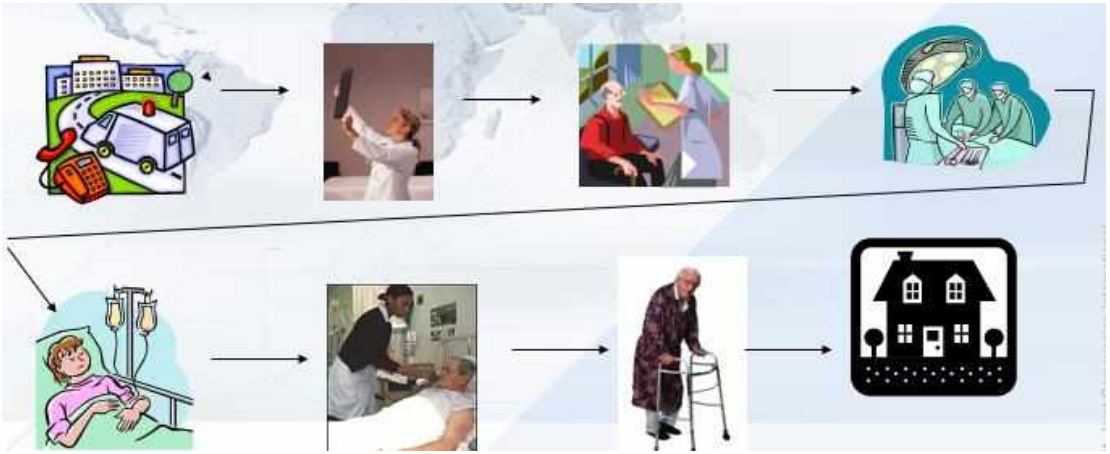
JCI PCI workshop

- Tracer methodology
  - Patient
  - System



  - Antimicrobial stewardship

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Topics

1-1:
Infection Prevention and Control Program.

Structure and Management

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Structure of the Program

A designated coordination mechanism

- A coordinating committee
- A small work group
- A task force

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Building a risk assessment table

Probability and Criticality table

	Catastrophic	Critical	Marginal	Negligible
Frequent	A	A	A	B
Probable	A	A	B	B
Occasional	A	B	C	C
Remote	B	C	C	D
Improbable	C	C	D	D
Incredible	C	D	D	D

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Exercise: Risk Assessment

Infection Control Risk Assessment

Event	Probability of Occurrence				Potential Severity/Risk Level of Failure				Potential Changes in Care & Treatment				Prepared-ness			Risk Level
SCORE	High	Med	Low	None	Life Threa-tening	Perm. Harm	Temp. Harm	None	High	Med	Low	None	Poor	Fair	Good	
	3	2	1	0	3	2	1	0	3	2	1	0	3	2	1	
Community Influx:																
MRSA																
H1N1																
TB																
Norovirus																
Potential Infection (HAI's)																
C.diff																
Surg. Site Infections by .																

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1-2:

Health Care-associated Infections and Microorganisms

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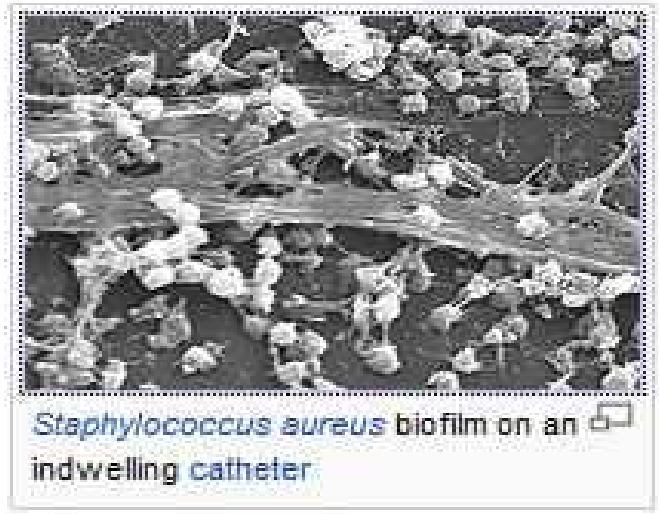
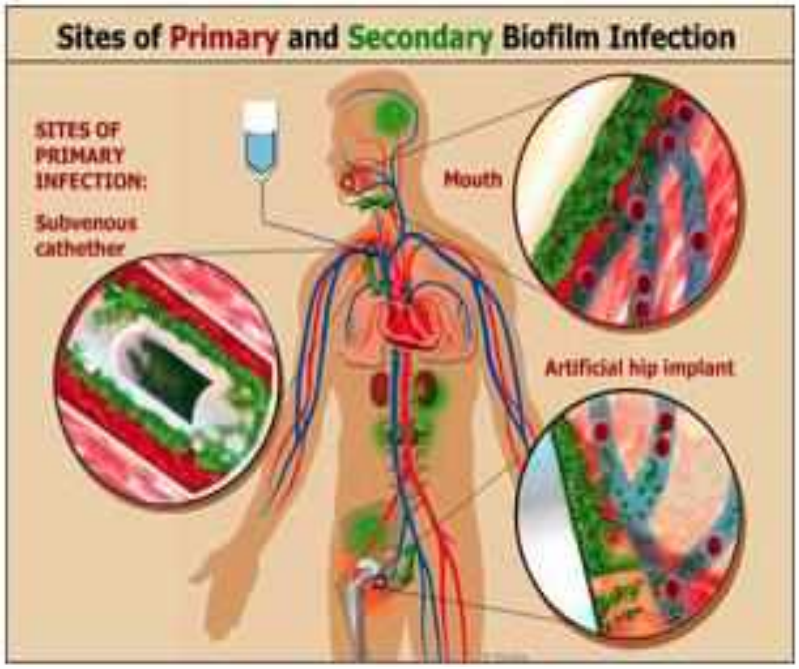
Biofilm

- A **biofilm** is an aggregate of microorganisms in which cells adhere to each other on a surface: Composed of extracellular DNA, proteins, and polysaccharides
- Resistant to the battery of immune system and antibiotics.



Staphylococcus aureus biofilm on an indwelling catheter



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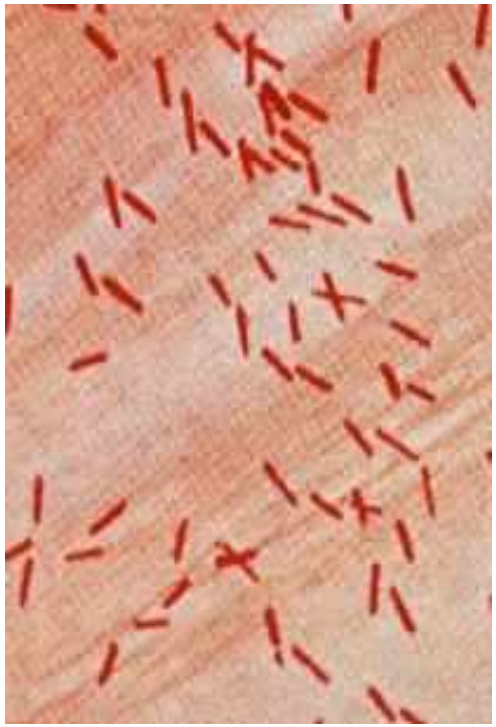
Gram negative bacteria

E. coli, Proteus, Klebsiella, etc.

E. coli

Gram's Stain



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2-1:

Introduction to Statistics

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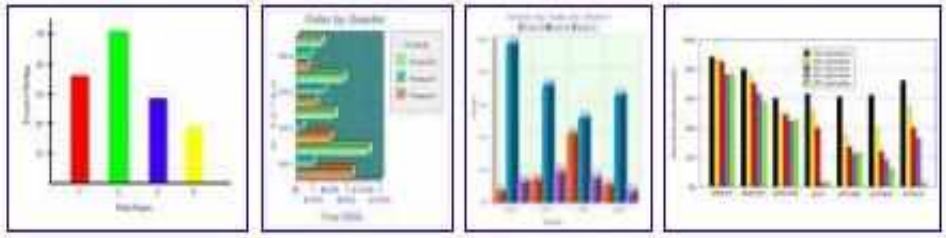
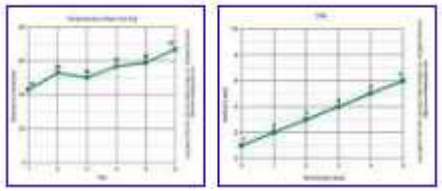
Reporting (Sharing) Data

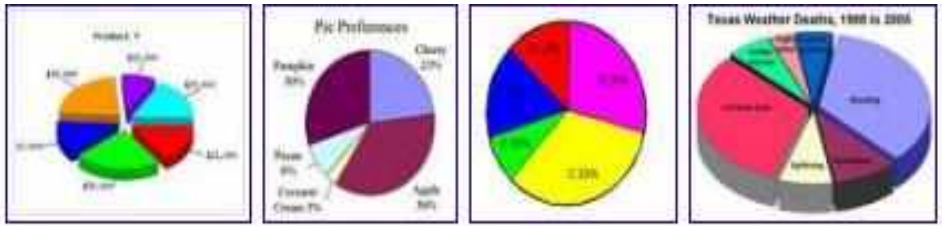
- Graphic analytical analysis
  - Bar graph



  - Line graph



  - Pie graph



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Collecting Data:Dashboard with Trends

All Indicators View: Infection Control

Status	Indicator	Current Value	Target	SPC Alert	Updated
Infection Control > Activity Data					
	IC - Central Line Days		n/a		Dec 2010
	IC - Central Line Days - ICU ONLY		n/a		Dec 2010
	IC - Central Line Days - NON ICU		n/a		Dec 2010
	IC - Patient Days (excl Psych)		n/a		Nov 2010
	IC - Ventilator Days		n/a		Dec 2010
Infection Control > Infection Data					
★	IC - Bacteremia Secondary - ICU ONLY				Dec 2010
★	IC - Bacteremia Secondary - NON ICU				Dec 2010
✕	IC - C-Diff Rate per 1000 Patient Days				Nov 2010
★	IC - CLABSI - ICU ONLY				Dec 2010
★	IC - CLABSI - NON ICU				Dec 2010
★	IC - COLONIZED - Citrobacter				Dec 2010
★	IC - COLONIZED - Klebsiella				Dec 2010
★	IC - COLONIZED - MRSA				Dec 2010

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2-2:

Healthcare-Associated Infection Surveillance

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Surveillance Strategy

- Risk-based
- Unit-based
- Pathogen-based
- Procedure-based

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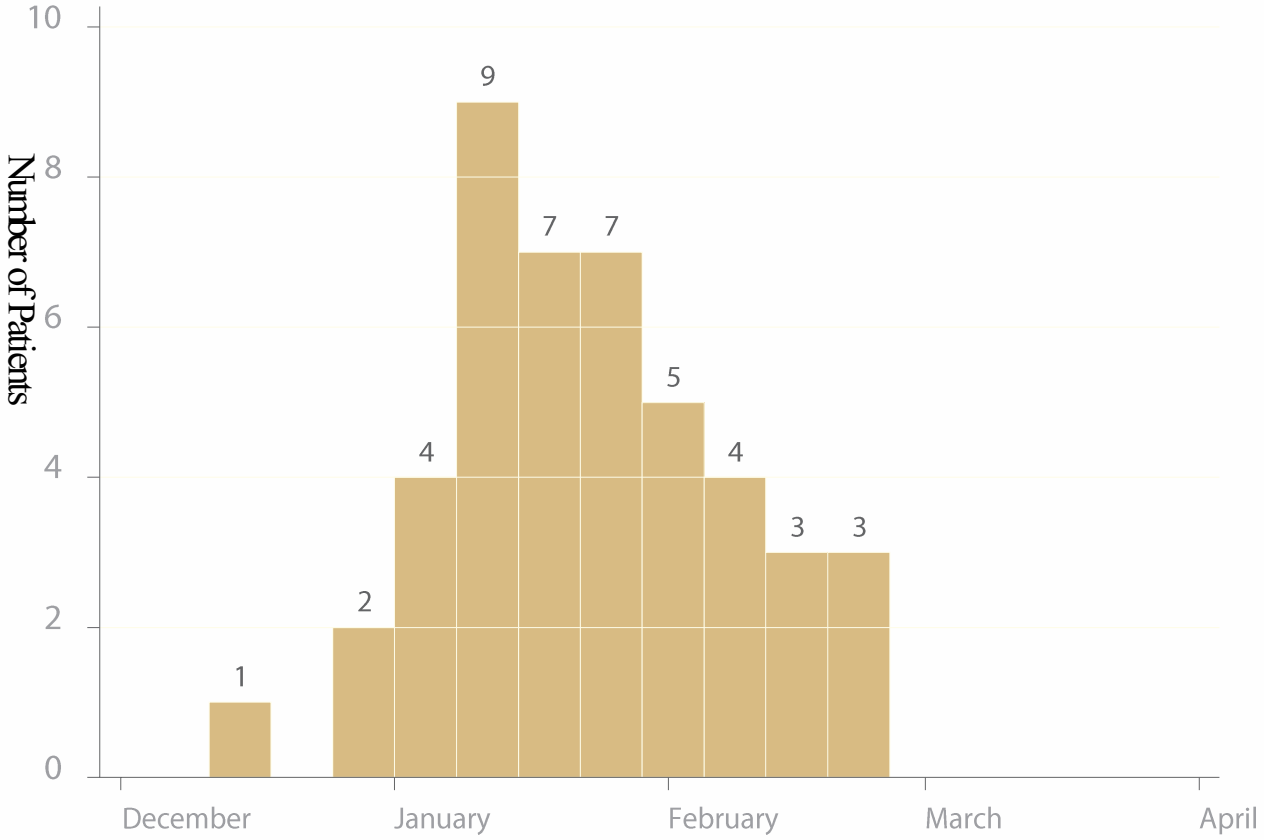
Epidemic curve Norovirus infection: Single exposure or common source



Dec 2011 – April 2012

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3-1:

The Basics of Outbreak Investigation

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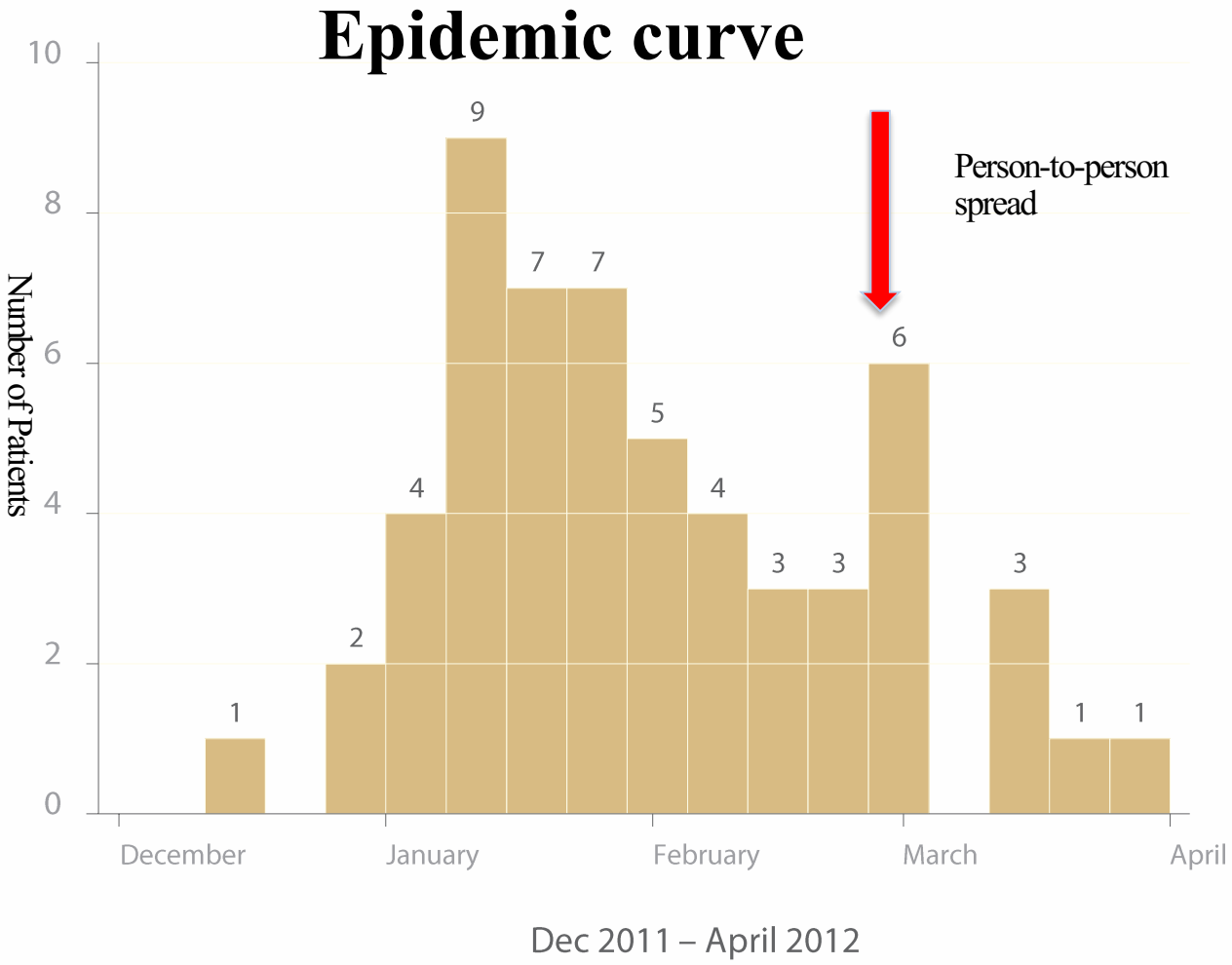
Data gathering and documentation



Dec 2011 – April 2012

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3-2:

Cleaning, Disinfection, and Sterilization and Infection Control

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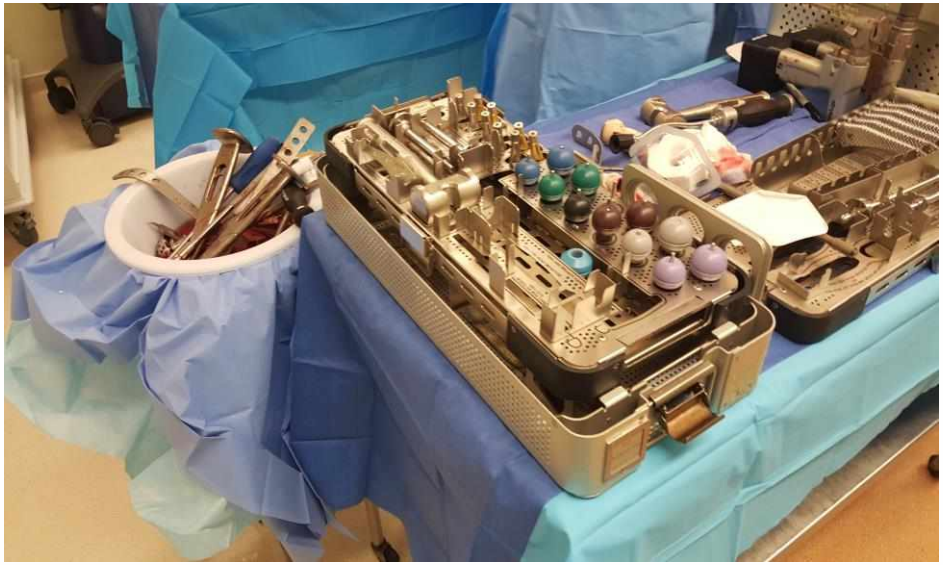
Cleaning starts at Point-of-Care

- OR
  - Soaking
  - Cleaning (enzyme, moistening)



Clamps tangled, closed and mixed w/sharps

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Cleaning – 3 ~ 4 sink system

Enzyme – rinse – rinse – rinse

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3-3:

Effective Educational Strategy for Infection Prevention and Control

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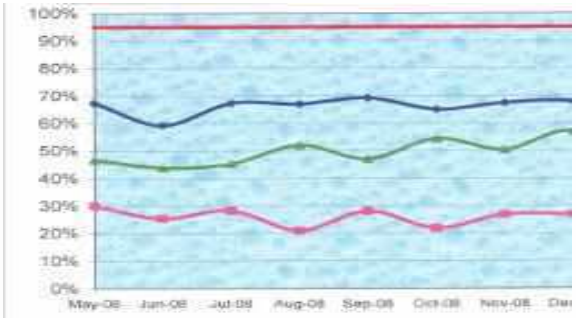
Hand Hygiene

- Hand hygiene guidelines (WHO, CDC, or national)
- Hand hygiene program
- Education and training
- Monitoring
- Continuous improvement



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Education and Training

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4-1:

Antimicrobial Stewardship

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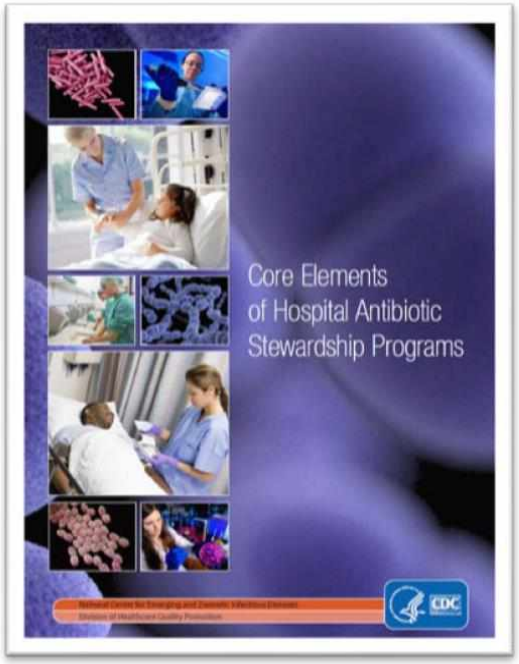
National Goals to Improve Antibiotic Use

CDC

Core Elements of Hospital Antibiotic Stewardship Programs



- Leadership Commitment
- Accountability
- Drug expertise
- Action to improve use
- Tracking
- Reporting
- Education

https://www.cdc.gov/getsmart/healthcare/pdfs/core-elements.pdf

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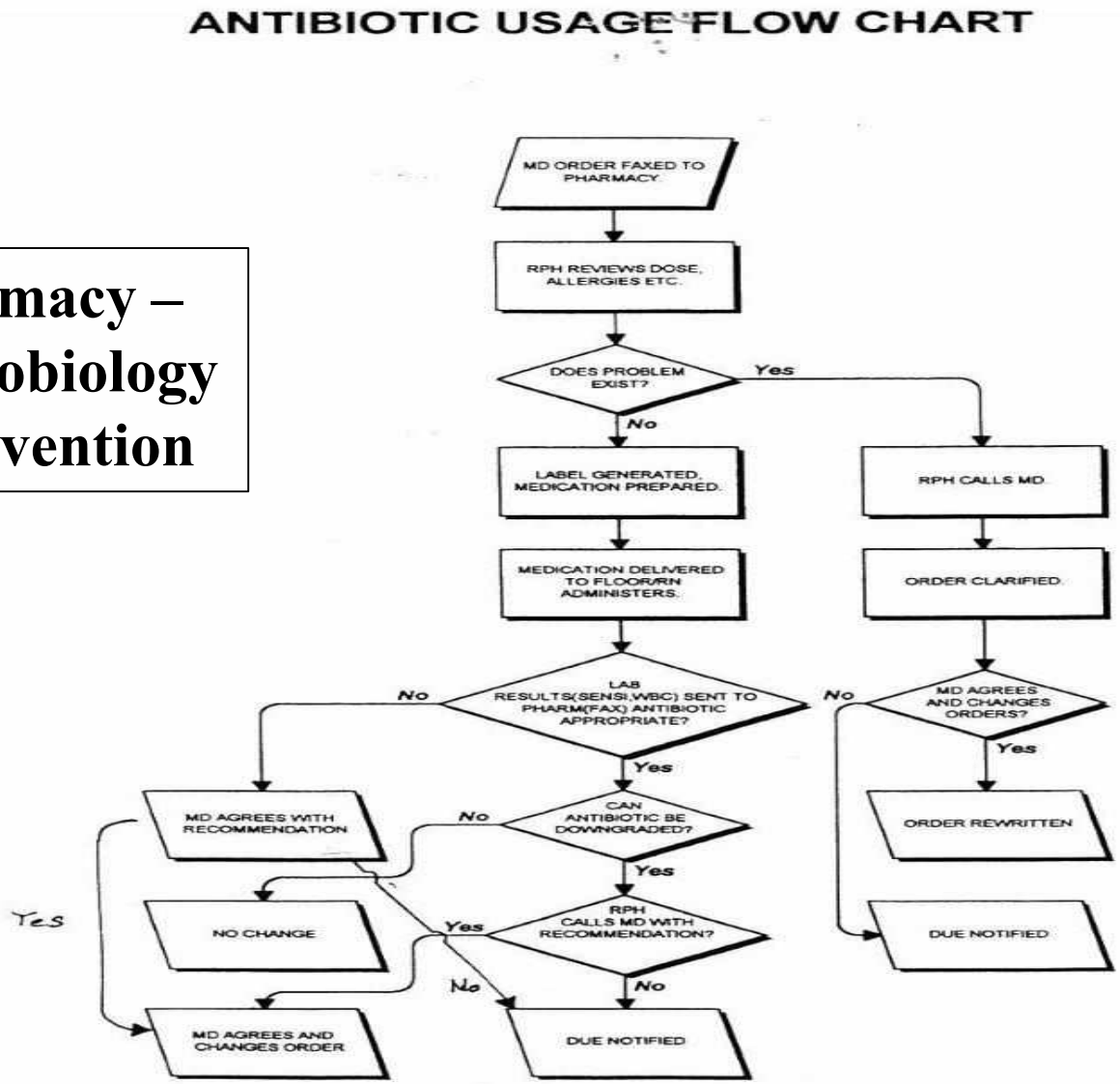
Antibiotic Usage Flow Chart

Pharmacy – Microbiology Intervention



Workshop Agenda

INFECTION PREVENTION AND CONTROL WORKSHOP
Hospital Name and Date of Workshop
Consultant Name

AGENDA

DATE and TIME	TOPIC	STANDARDS and ME's
	Joint Commission International Accreditation Standards for Hospitals. 4th Edition, January 2011	
	Day One	
8:30 – 9:00	Leadership Meeting to Review Workshop Goals and Objectives	
9:00 – 10:15	Review of IPC Program Components, Roles, Staffing, Other	PCI .1, 2. 3, 4
10:15 -10:30	Morning Break	
10:30- 12:00	Risk Assessment and IPC Plan with Workshop	PCI .5, .6, .7
12:00 – 1:00	Lunch	
1:00 – 4:00	Tracers, Focused Visits, Rounds – Neuroscience Hospital	
4:00 -4:30	Review of Findings with Observers	
	Day Two	
8:30 – 10:00	General Principles of Epidemiology for Infection Control and Infection Prevention Surveillance, Data Analysis and Display	PCI. 6, MEs 1-4, PCI.5 ME 3 PCI .10.2-.10-6
10:00 – 10:30	Morning Break	

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Certificate of Participation

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