WPSC Web Conference

A COLLABORATIVE SYSTEMS-LEVEL APPROACH

TO ELIMINATING HEALTHCARE-ASSOCIATED

MRSA, CLABSI and RESPIRATORY VIRUS INFECTIONS

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UW Medicine

Presenters

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UW Medicine System

UW Medicine System

- University of Washington Medical Center
- Harborview Medical Center
- Northwest Hospital & Medical Center
- 7 UW Medicine Neighborhood Clinics
- UW School of Medicine
- UW Physicians
- Airlift Northwest

Shares in the ownership & governance of

- Children's University Medical Group
- Seattle Cancer Care Alliance

Serves the 5-state WWAMI Region

- Washington Alaska
- Wyoming Idaho
- Montana





University of Washington Medical Center

UW Medical Center

- 450-bed academic medical center
- Employees 4,300
- Faculty Physicians 1,800
- Residents & Fellows 1,180

2010 Census

- Hospital Admissions 19,300
- Surgery Cases 4,850
- Emergency Dept Visits 27,000
- Clinic Visits 333,600

Areas of Specialization

- Cardiology
- Neurosurgery
- Oncology
- Orthopaedics
- Otolaryngology/Head & Neck Surgery
- Transplantation: heart, lung, liver, kidney/pancreas, & small intestine
- High Risk Pregnancy
- Level III Neonatal Intensive Care



High-risk Patient Population Especially Vulnerable To Healthcare-Associated Infections

- 86 oncology beds, including bone marrow transplantation
- 5 solid organ transplant programs
- 36 NICU beds—expanding to 50









Eliminating Healthcare-Associated Infections

STRATEGIC PLANNING



Getting to Zero Targets

- FY 2009 baseline
- FY 2010 decrease HAIs 50% from baseline
- FY 2011
 - ✓ Decrease HAIs 50% from FY10 target
 ✓ Added CAUTI





Key Drivers / Strategic Underpinnings

- Strong executive leadership
- Ownership by all
- No option to "opt-out"
- Partnership with patients/ families
- Realistic resource allocation



Key Drivers / Strategic Underpinnings

- Multidisciplinary teams
- Evidence-based solutions
- Transparent real-time data
- Robust communication strategy
- Standardized, accessible supplies



Infection Control Breakthrough Goal (ICBG)

Project Structure



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ICBG Leadership Team (meets monthly)

From Each Project Team

- Physician Champion
- Advanced Practice Nurse
- Infection Prevention Practitioner

UWMC Leadership

- Project Leader
- Project Manager
- Patient & Family Advisor
- CEO
- CNO
- UWMC Medical Director
- Medical Director, Healthcare Epidemiology & Infection Control

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Associate Medical Directors

- Center for Clinical Excellence
- Inpatient Care
- Ambulatory Care

Directors/Managers

- Employee Health/Infection Control
- Laboratory
- Pharmacy
- Environmental Services
- Materials Management

Hand Hygiene Nurse Coach/Mentor

Ad hoc members as needed

ICBG Project Teams: Structure

- Ambulatory Care Clinics
- Community Relations
- Data Analysts
- Emergency Dept.
- Employee Health
- Environmental Services
- Facilities / Operations
- Health Educators
- I.T. Experts
- ISIS Team
- Laboratory
- Materials Management
- Nurse Managers
- OR/PACU
- Patient Care Staff
- Pharmacy
- Pre-Anesthesia
- Staff Development



Communication and Documentation

Project Plan weekly update
Team Charters (by the whole team) annual update
Team Status Reports (by team leaders) monthly
Data Collection & Reporting
 Outcome Measures
 Process Measures
 Dashboard
Board Report monthly
Team-specific data and reports as needed



ICBG Dashboard: Published Monthly

ICBG Project Dashboard: May 31,	2012	Antes	FT12 Termet	Table	34-11	Aug-11	Sep-11	048-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12
Methicillin-Resistant Staphylococcus	aureus (MRSA) Infections	(includes	readmits	with MI	RSA SSI		-	1							120	
Number of healthcare-associated MRG/	A cases					1								-	1	2
MRSA rate (per 1,000 pt days)											1					
HA-MRSA: infection																
HA-MRSA: readmission with a sur	gical she infection	3														
HA-MRSA: colonization																
Adult ICU only					\square							1	1			
NICU only				1												
All other acute care units																
Compliance w/ hand hygiene: overall	May obsenations: 2,137								1		1					
MD/Residents/ARNP/PA	May absorbations:	1		1	-											1
RNMAHA	May deservations.	1		- Mile												
Others	May observations.			æ								-				
Respiratory Virus Infections							-									
Number of healthcare-associated respira	tory virus infections										-				-	
Confirmed respiratory virus cases in which there was a delay in implementing Respiratory Precautions.				1												
Compliance with influenza vaccination	requirements: as of May 3	1, 2012	-		Vaccin	ations:		. 3	Declina	tions of	omplete	d:				
Overall compliance with requirements	May n n															
Medical Center Staff	May n =	1		22.83	case.	3832	1000		-							1
Residents	May n =	1		NA	MA	MA	~						<u> </u>	-		
Medical Staff	May n =	1														
Percent of staff that have completed th	wir annual respiratory prot	ection tra	ining N 6	5 mask	fit testin			-								
Overall compliance with fit testing	May n =			-												
Patient Care Staff	May n =	1		1												
Residents	May n =	1		ollin												
Medical Staff	Mayin #			S.										1		



Full-Time Infection Prevention RN Coach-Mentor

Comprehensive rounding schedule

- ✓ All inpatient and onsite clinic locations
- OR & PACU
- ✓ All three shifts
- ✓ 7 days per week
- Standardized assessment criteria
 - ✓ Hand hygiene
 - ✓ Correct use of PPE



• Monthly reports by service, unit, & role



Environmental Services PI Project

Redesigned post-discharge room cleaning
 Color-coded equipment
 Room cleaning check-list
 Quality auditing by supervisors
 Glow-Germ monitoring

- Revised Environmental Services schedules
- Updated electronic room tracking system
- Involvement and recognition of staff



Environmental Services PI Project

Coloring Coding

- 73 different pieces of furniture, equipment, and supplies in a patient's room
- Color code = staff responsible for cleaning





Eliminating Healthcare-Associated Infections

PATIENTS & FAMILIES



ICBG Leadership Team





Patient & Family Advisor Role

- Liaison with ICU patients & families
- ICBG Leadership Team member
- Representative / speaker
 - UWMC Leadership Council
 - ✓ Nursing Education classes
 - ✓ Washington State Hospital Association
 - ✓ UHC Conference















My Cleaning Supplies



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How many staff entered his room?









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Eliminating Healthcare-Associated Infections

INTERVENTIONS & RESULTS: CLABSI



Outcome & Process Measures: CLABSI

- Numbers & rates of HA-CLABSI cases
- Rates of compliance with the CLABSI bundle
- Number of faculty physicians, residents, and nurses that have completed mandatory central line insertion training







Interventions: CLABSI

- Mandatory didactic and simulation training for all faculty physicians, residents, and nurses that insert central lines
- As of July 1, 2010: no line insertions without completion of the training



Department (09-To Date)	Total to be Trained	Training Completed	Training Not Completed	Percent Trained
Anesthesia	64	64	0	100%
Family Medicine	16	16	0	100%
Medicine	118	118	0	100%
Surgery	74	74	0	100%
Pulmonary & Critical Care	14	14	0	100%
IM/Nephrology	5	5	0	100%
Totals	291	291	0	100%

CVC Training & Testing Rates: July 06, 2010 Residents and Fellows



Interventions: CLABSI

- FT Vascular Access Clinical Nurse Specialist (CNS)
- Standardized central line insertion cart
- Mandatory central line procedure checklist
- Empowered RNs to "stop the line"
- Multidisciplinary intensive reviews of each CLABSI case
- Daily automated report to identify and track all central lines





CVC Insertion Safety Checklist



HA-CLABSI Cases: CY 2010—CY 2011

 82.2% of the HA-CLABSI cases
 occurred >7 days
 after insertion

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 Which suggested that line maintenance was a key factor in acquiring a CLABSI



HA-CLABSI Rates: CY 2010 & CY 2011

CY 2010
 ✓ PICC rate: vs.
 ✓ Tunneled rate:

 Suggested that our focus needed to include tunneled lines



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Maintenance Bundle: CLABSI

- Daily Evaluation of the CVC / Dressing Change
- Standardize Tubing Configuration & Change Protocol
- Standardize Needleless Access Device Care
- Bathing Protection Policies
- Gloving Policies
- Blood Culture Sampling





Tunneled Catheters: CLABSI

 Formed a tunneled line-specific CLABSI group to address issues unique to this population

Subgroups include:

 Insertion techniques: Interventional Radiology
 Infection Control: Oncology
 Infection Control: Non-Oncology



CLABSI: Accomplishments

- Ortho Unit CLABSI-free for 1 year
- Going Forward: Maintenance & Tunneled Lines (e.g. Oncology Population)



Eliminating Healthcare-Associated Infections

INTERVENTIONS & RESULTS: MRSA



Outcome & Process Measures: MRSA

- Numbers & rates of HA-MRSA cases
- Hand hygiene compliance rates reported by:
 - 🗹 Unit
 - ✓ Service
 - Professional Role
- Compliance with personal protective equipment (PPE) procedures





Outcome and Performance Measures: MRSA





HA-MRSA: Infections vs. Colonization





Interventions: MRSA

- Executive-level Expanded MRSA Team based on a Hospital Incident Command System (HICS) model
- Infection prevention training:
 - Faculty physicians MSAC, division meetings
 - Residents | on-line modules
 Staff
- Contact Precautions for high-risk patients



Interventions: MRSA

- Multidisciplinary intensive reviews of each HA-MRSA case
- Daily "Patients in Precautions Report"
- Dedicated stethoscopes in patients' rooms
- Nurses' SpectraLink phones
 left outside of patient rooms
- Hand gel products trials





Expanded MRSA Surveillance

- Universal active MRSA surveillance
 - Designated units (ICU, NICU, General Medicine)
 High-risk patients (inpatient & preop screening)
- Added throat culture to R/O MRSA cultures
- History of MRSA Alert in the EMR
- Changed OR/PACU protocols for patients with a history of MRSA



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INTERVENTIONS & RESULTS: RESPIRATORY VIRUS



Outcome & Process Measures: Resp. Virus

- Number of HA-respiratory virus cases
- Number of confirmed respiratory virus cases in which there was a delay in implementing **Respiratory Precautions:**

	FY 2010	FY 2011	FYTD 2012
Total Number of Resp. Virus Cases			
No. of Resp. Virus Cases with a Delay in Implementing Precautions			
%. of Resp. Virus Cases with a Delay in Implementing Precautions	4.3%	3.4%	1.5%



Outcome & Process Measures: Resp. Virus

- Rates of compliance with mandatory annual respiratory protection training / N-95 mask fit testing
- Rates of compliance with influenza vaccination recommendations

	Faculty Physicians	Residents	Staff
FY 2011	100%	91%	99%
FY 2012	100%	100%	99.8%



Interventions: Respiratory Viruses

 Converted the medical center from PAPRs to N-95 masks for Airborne precautions

 Respiratory protection training and fit testing of >4,400 faculty physicians, residents, and patient care staff





Interventions: Respiratory Viruses

- Deployed signage and kiosks with hand hygiene products & information to over 100 locations and 30 entrances, passageways and elevators
- Influenza vaccinations for over 6,500 staff, providers, and volunteers annually
- Implemented mandatory respiratory symptom screening for staff and visitors on patient units

\subset		
	I was screened on:	
	[date]	

Eliminating Healthcare-Associated Infections

COMMUNICATION PLAN





Preventing infections is in our hands.

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Questions?

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