

C. Differently

Lovelace Medical Center's journey to lower C. difficile infection rates

Introductions



Vivian Silverman: RN, CIC, Infection Control Practitioner

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Objectives



Understand four avenues of change in controlling C. diff rates

- Environmental Services – Transmission (Practices and Products)
- Hand Hygiene
- Pharmacy Antimicrobial Stewardship
- Clinical Staff Education
- Administration's Support

“It isn’t a sprint



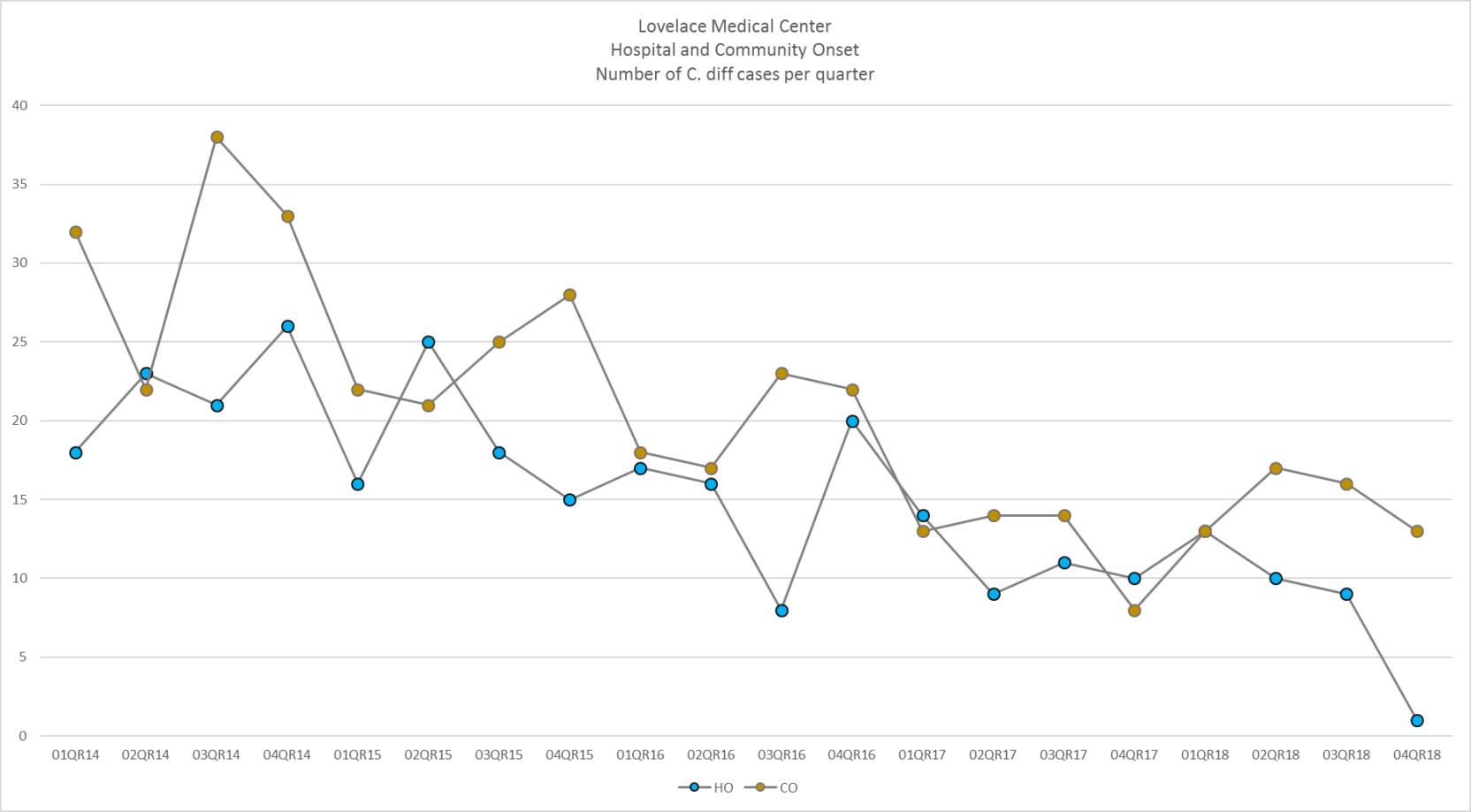
...it’s a marathon”

Background

- May 2016 – Initial meeting with Dr. Susan Kellie, HEN, HealthInsight
- June 2016 – Process improvement project
- September 2016 – Expanded to all Lovelace Albuquerque hospitals
- January 2017 – C. diff focus expands to all Ardent Hospitals

Background

- C diff rates over time





Environmental Services

Lovelace
Health System

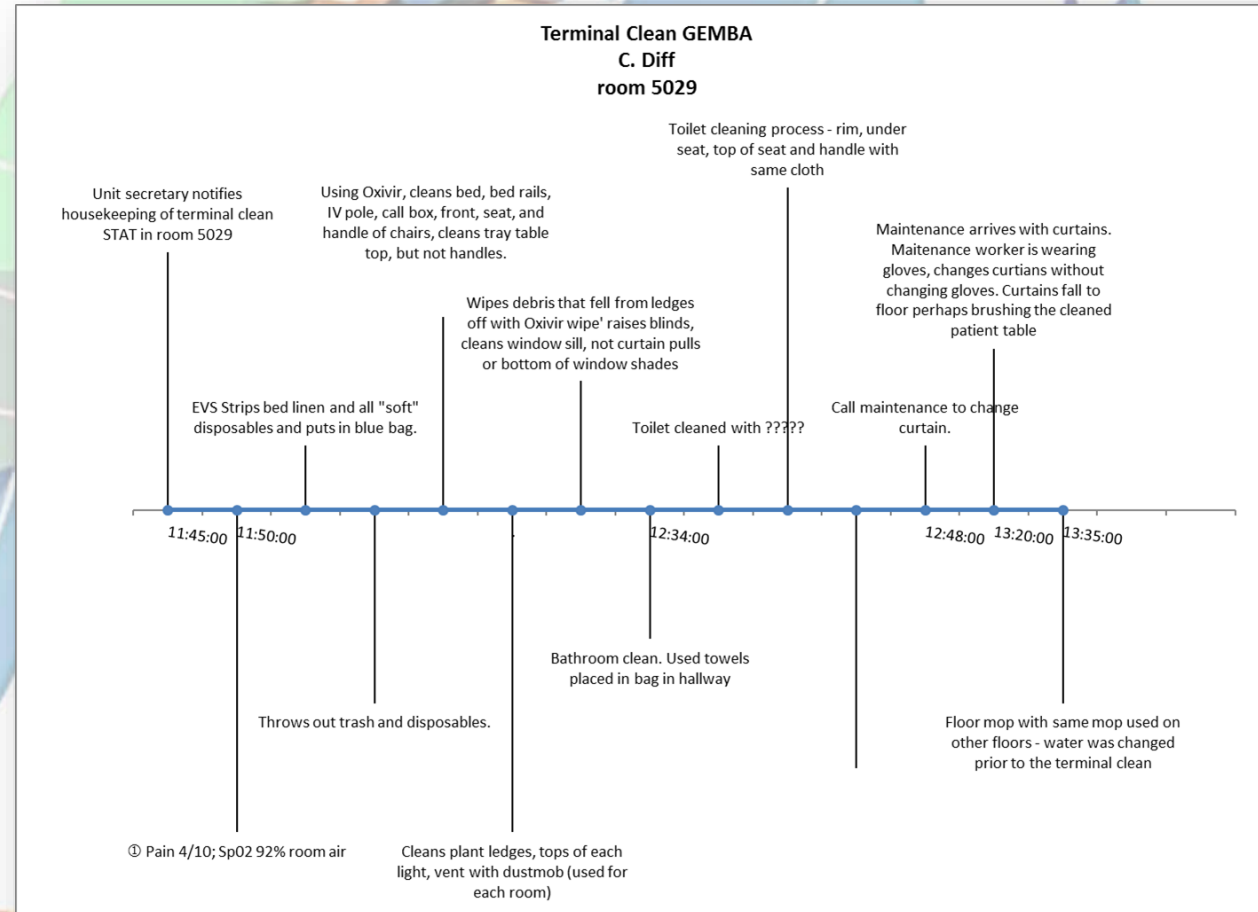
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Environmental Services

- Cleaning Supplies
- Processes – isolation cleaning



Environmental Services



Environmental Services



Cleaning Responsibilities

RN
(when done with use)

- Glucometers
- Keyboards
- Bladder scanner
- Exercise Equipment
- Lifting equipment
- Pulse Oximeters
- Tele boxes and wires
- Thermometers
- Transport monitors

PCT
(when done with use)

- Glucometers
- Keyboards
- Bed Monitors
- Bladder scanner
- Exercise Equipment
- Lifting equipment
- Pulse Oximeters
- Tele boxes and wires
- Thermometers

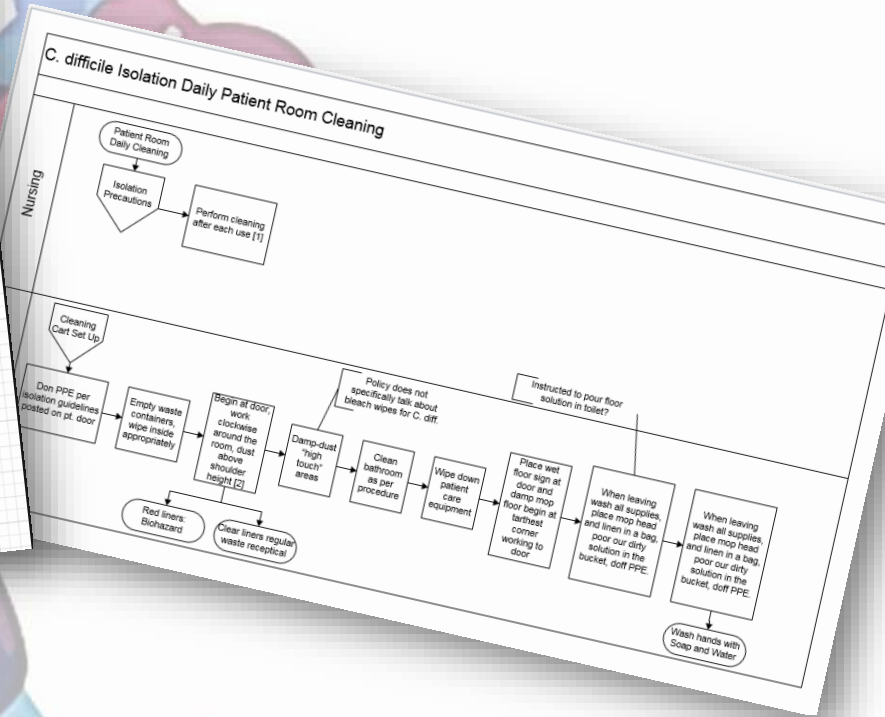
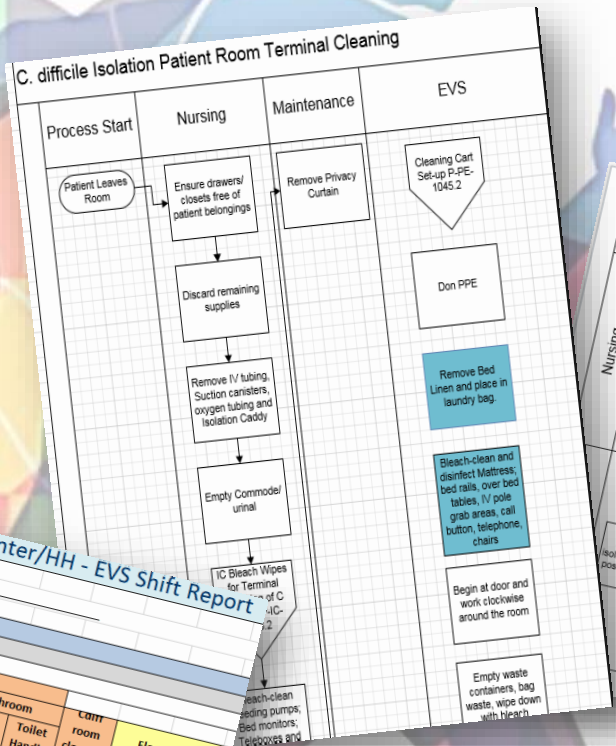
EVS (daily)

- Bed rails
- Raised Toilet Seat
- Toilet
- Patient Tables and Chairs
- Bedside Tables
- Headwall areas
- Bed Tables

Lovelace Medical Center/HH - EVS Shift Report

Date: 08/20/16
Shift: pm
Room set ups completed: 173
Leads/Supervisor/Manager: Charlie

DEPARTMENT	Number of Daily Cleans	Number of discharge cleaning	Number of Terminal Cleaning	Terminal Clean Room	Enter ATP Value							Floor Work (rooms/area)
					Bed Rail	Over Bed Table	Call button	Sink Handle	Toilet Handle	Comm room cleaned with		
9th Neuro												
8th Ortho/Surg		4										
7th ICU		7										
5th Med/Surg		1										
4th Intermediate Care Unit		3										
3rd Behavioral		2										





Pharmacy Antimicrobial Stewardship

Pharmacy Antimicrobial Stewardship

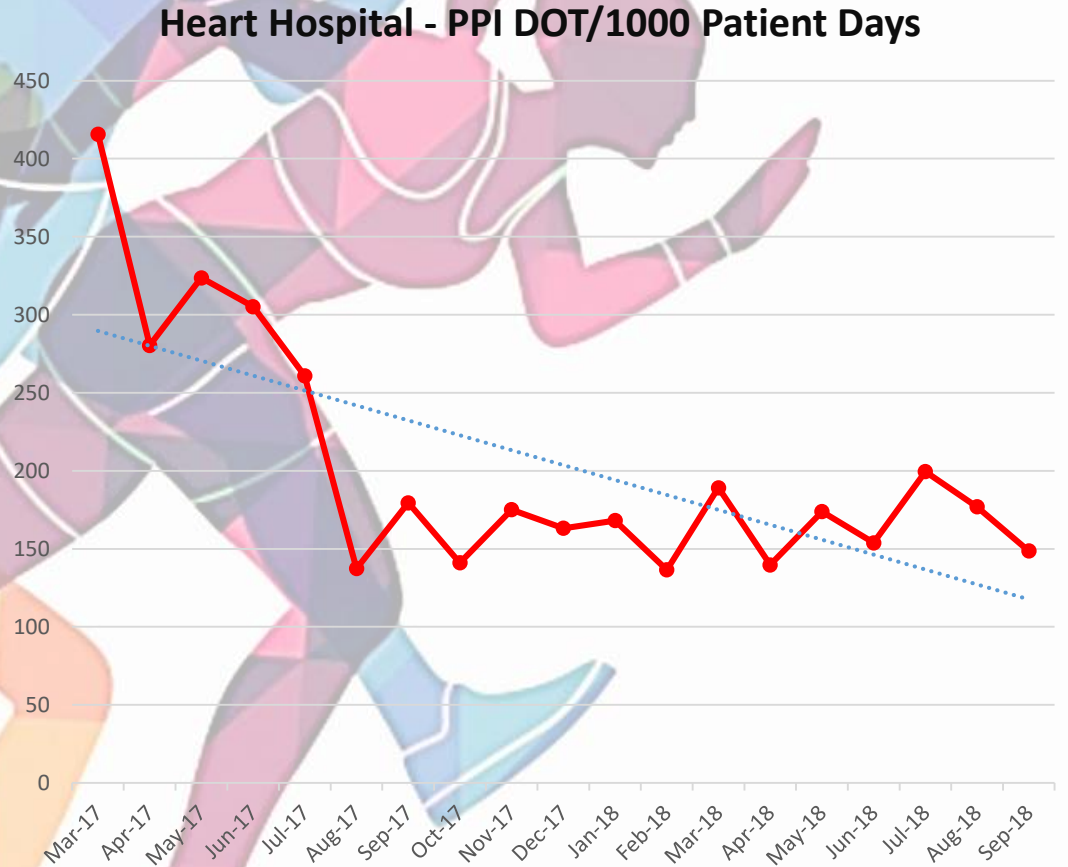
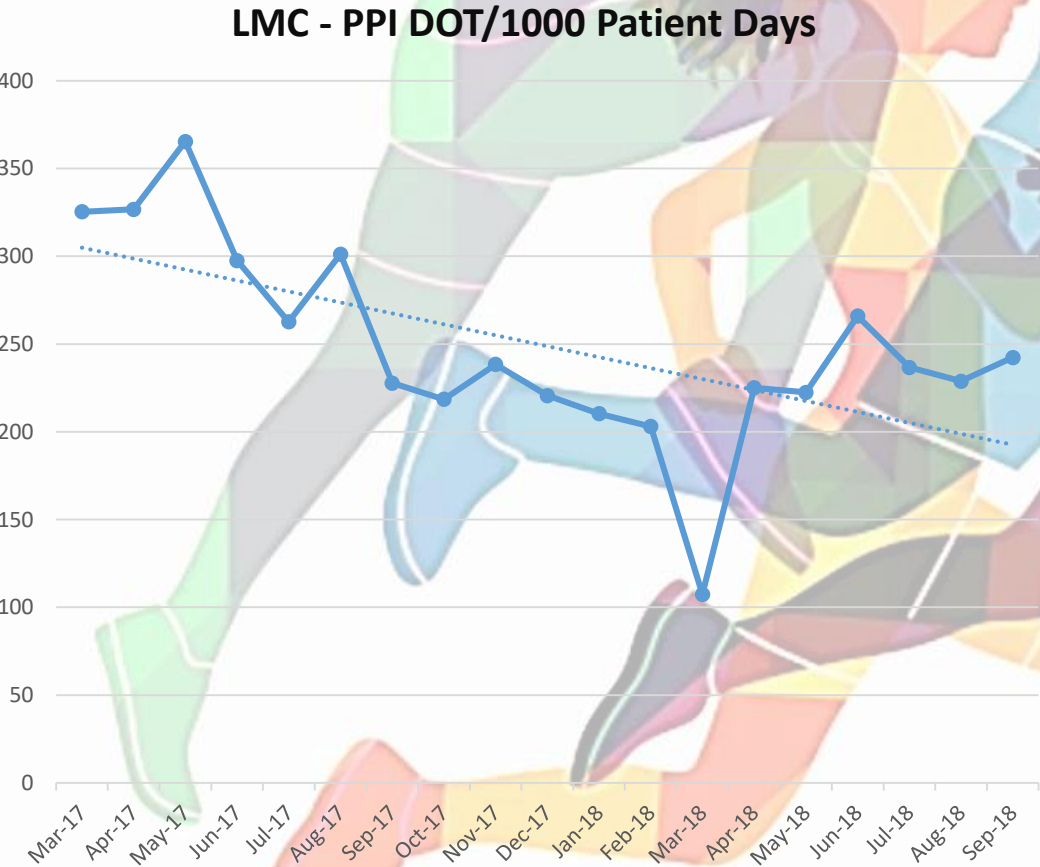
- Procalcitonin
- Peptide molecule produced in response to bacterial infection as well as tissue injury
 - May help to differentiate bacterial infection from viral infection and other non-infectious processes (e.g. CHF, COPD)
- Used to discontinue antibiotics as well as to minimize duration
- Less antibiotic exposure → less alteration in gut flora → less CDI
- Should not be used to diagnose or monitor C diff infection

Pharmacy Antimicrobial Stewardship

- Proton Pump Inhibitor (PPI) Use Reduction
- Clinical association between PPI use and CDI
- Stewardship activities to discontinue unneeded PPIs are warranted
 - Insufficient evidence for discontinuation of PPIs as a measure for preventing CDI (*no recommendation*)
- PPI use investigated and assessed for appropriateness
 - Is there an indication?
 - Duration?
 - Alternatives?
- Protocol at LMC allows pharmacist to discontinue inappropriate therapy in certain situations w/o need to contact the provider
- Interventions document in the Epic via iVents (pharmacy specific notes)

Pharmacy Antimicrobial Stewardship

- Proton Pump Inhibitor (PPI) Use Reduction



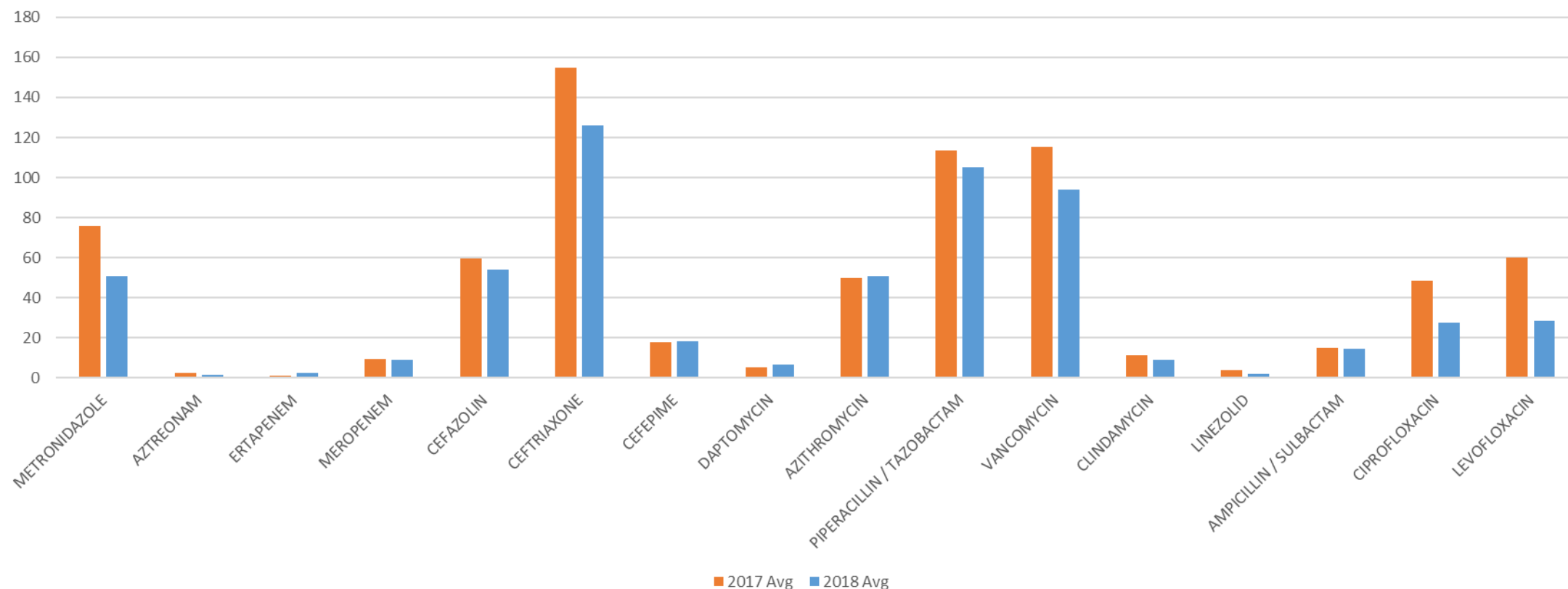
Pharmacy Antimicrobial Stewardship

- Antimicrobial Stewardship to control CDI rates
 - Minimize the frequency and duration of high-risk antibiotic therapy and the number of antibiotic agents prescribed, to reduce CDI risk (*strong recommendation, moderate quality of evidence*)
 - Implement an antibiotic stewardship program (*good practice recommendation*)
 - Antibiotics to be targeted should be based on the local epidemiology and the *C. difficile* strains present. Restriction of fluoroquinolones, clindamycin, and cephalosporins (except for surgical antibiotic prophylaxis) should be considered (*strong recommendation, moderate quality of evidence*)

Antimicrobial Stewardship at Lovelace

Lovelace
Health System

DOT/1000 Patient Days Average



Pharmacy Antimicrobial Stewardship

- Probiotic

- Replenish gut flora to balance microbiome during antibiotic administration and potentially prevent antibiotic induced CDI
- **What is the role of probiotics in primary prevention of CDI?**
 - There are insufficient data at this time to recommend administration of probiotics for primary prevention of CDI outside of clinical trials (*no recommendation*)
- Much of the data indicates trend toward a reduction in CDI with probiotic administration
- Concerns:
 - Various formulations and dosages – no standard
 - Infection due to the probiotic itself → avoid use in certain population

Pharmacy Antimicrobial Stewardship



- Banana Flakes
 - Shown to decrease diarrhea secondary to tubes feeds, which may theoretically lead to decreased testing of CDI
 - Reduced testing → reduced false positives
 - Brought to Lovelace P&T meeting for consideration to add to dietary formulary
 - Ultimately not added as data is limited and suggested a possible increased incidence of CDI in the banana flakes group



Lab and Testing

Lab and Testing

- Quest Lab PCR testing installed September, 2016
- TriCore reports about 17% go to PCR

Row Labels	Count of Client Code
Negative	45
Positive	6
See PCR	7
Grand Total	58

Lovelace Medical Center
C. Difficile Guide to Interpret Laboratory Results

September 15, 2016

All Patients awaiting C. Difficile results will be placed on Contact Precautions.
Isolation can be discontinued for C. Difficile based on the laboratory results.

No Isolation Required

Check 10 on Selected Components for C. DIFFICILE ANTIGEN AND TOXIN BY EI
☒ TEST: C. DIFFICILE ANTIGEN AND TOXIN BY EI
Collected Date & Time: 06/26/15 06:20

Result Name	Results	Units	Reference Range
<input checked="" type="checkbox"/> C. difficile antigen	Negative		Negative
<input checked="" type="checkbox"/> C. difficile toxin A/B	Negative		Negative

Yes, Contact Precautions-D

Check 10 on Selected Components for C. DIFFICILE ANTIGEN AND TOXIN BY EI
☒ TEST: C. DIFFICILE ANTIGEN AND TOXIN BY EI
Collected Date & Time: 06/07/15 21:00

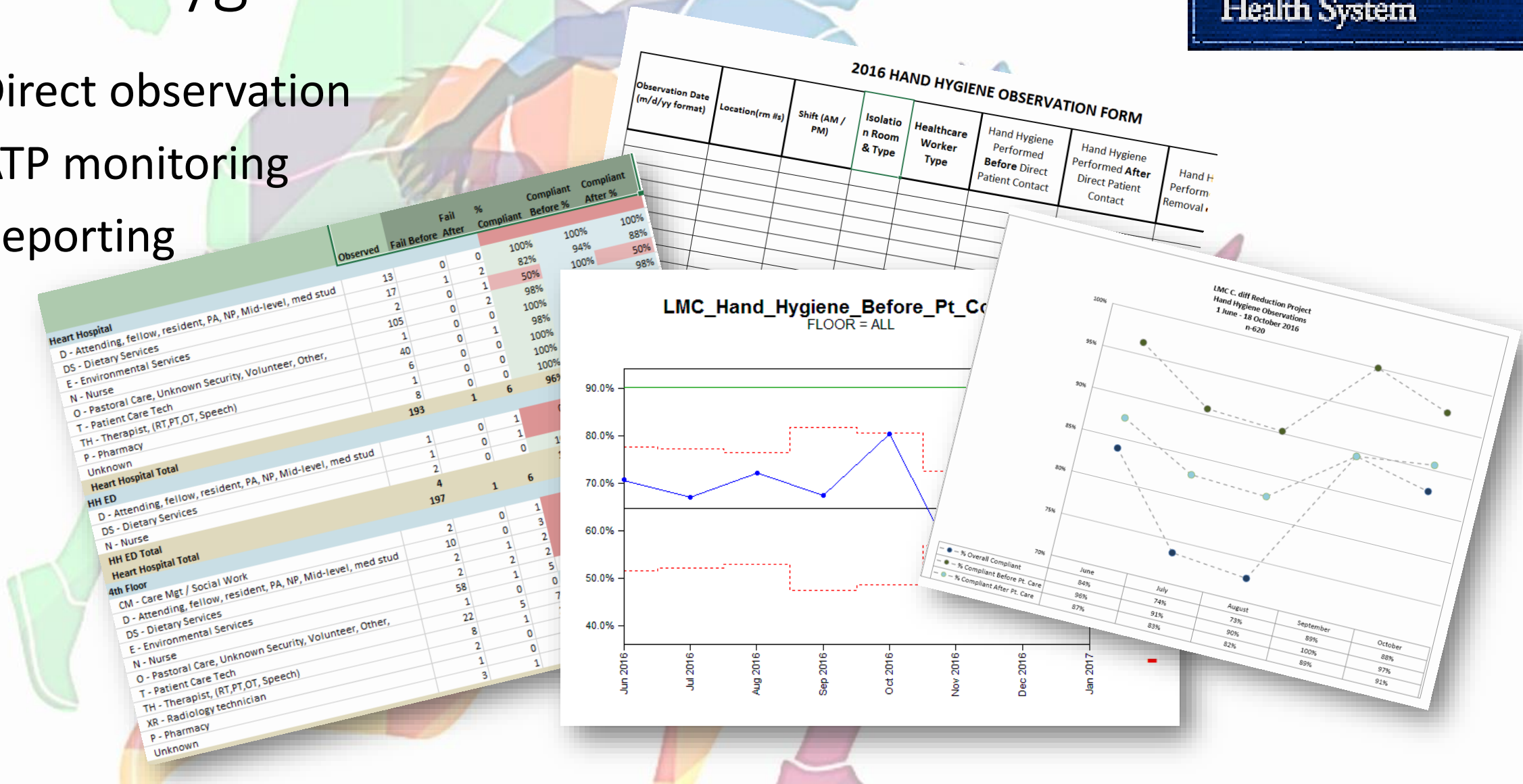
Result Name	Results	Units	Reference Range
<input checked="" type="checkbox"/> C. difficile antigen	Positive ##		Negative
<input checked="" type="checkbox"/> C. difficile toxin A/B	Positive ##		Negative



Hand Hygiene and PPE

Hand Hygiene and PPE

- Direct observation
- ATP monitoring
- Reporting



Hand Hygiene and PPE

- Established a process for c. diff rooms



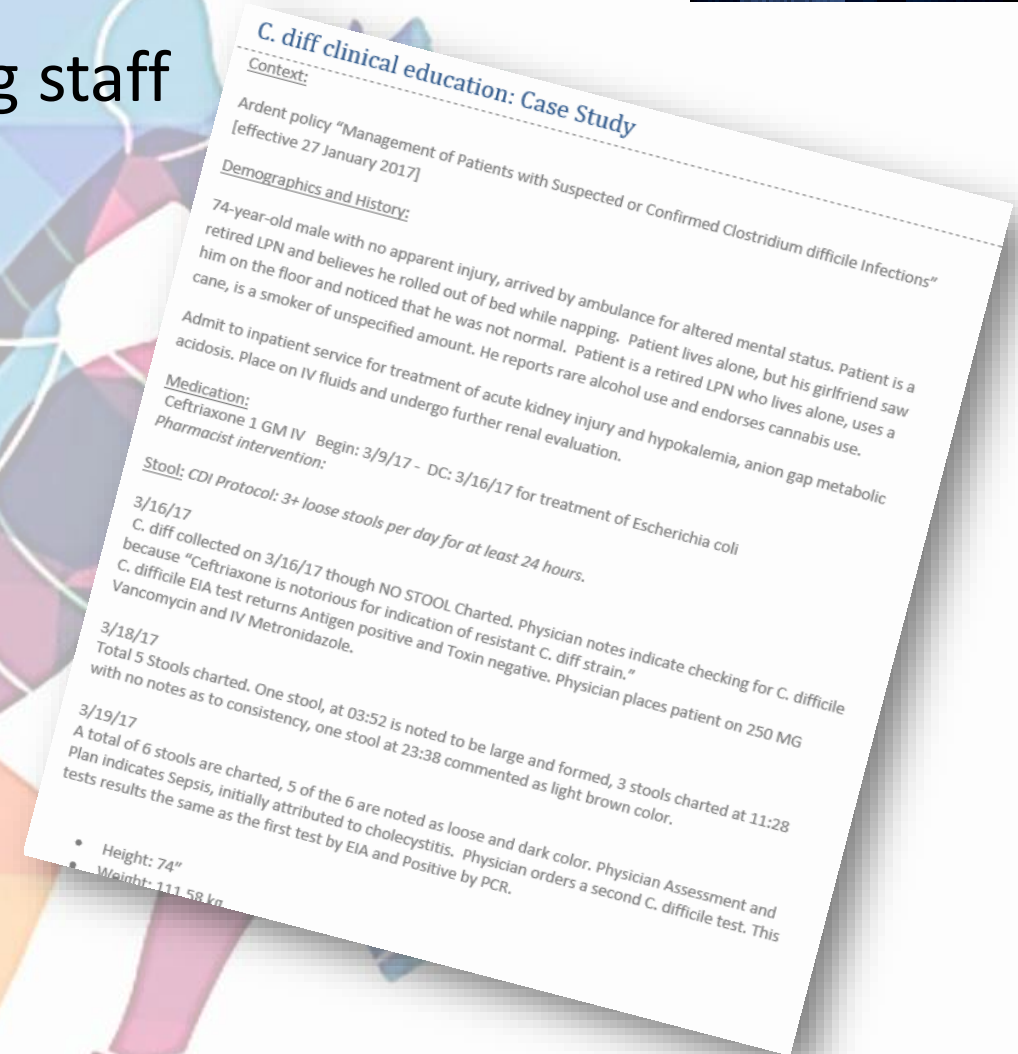


Physician and Nursing Education

Physician and Nursing Education

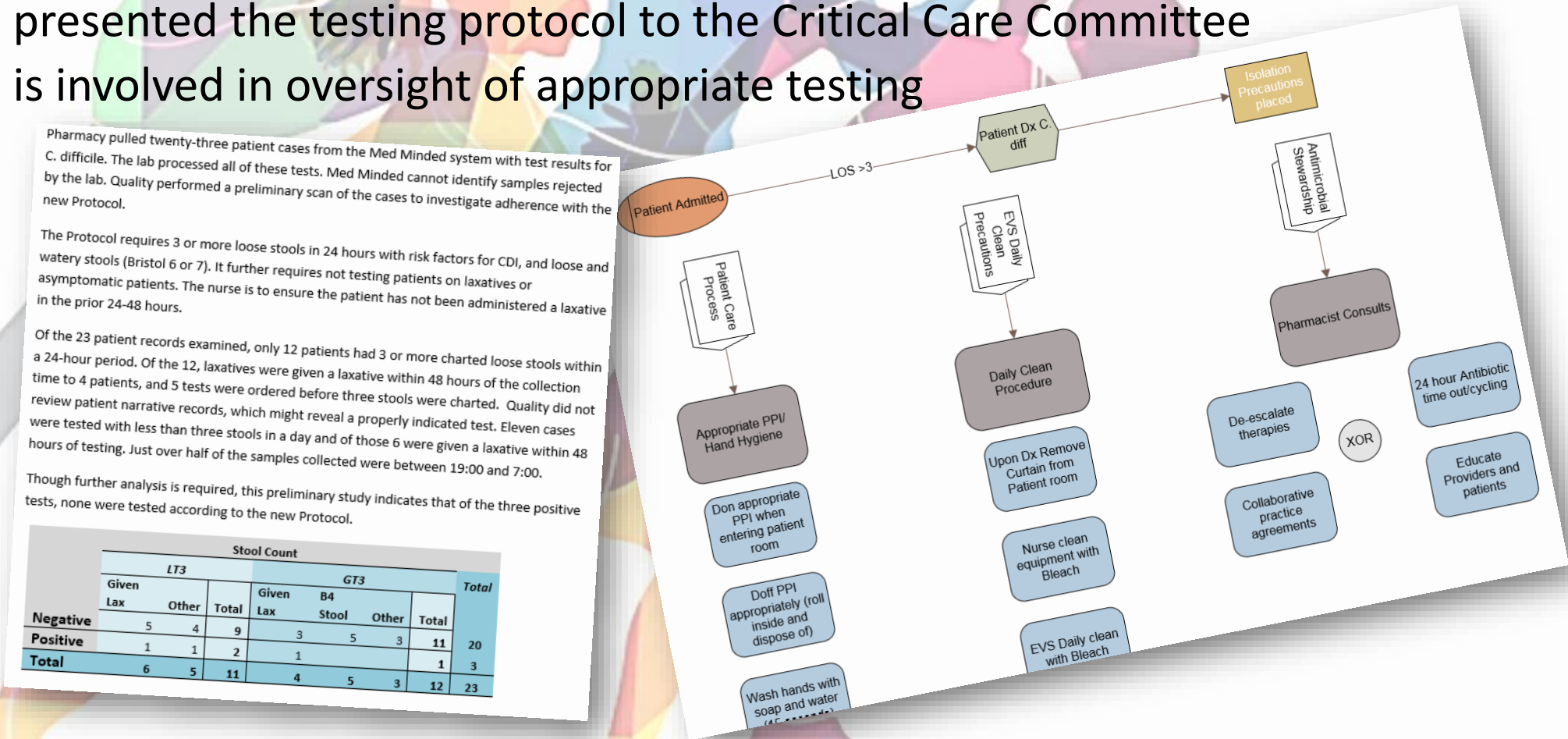


- Mandatory C. diff training for nursing staff
 - Stations on hand hygiene and PPE
 - Presentation on the C. diff project



Physician and Nursing Education

- Peer to Peer training for physicians
 - CMO presented the testing protocol to the Critical Care Committee
 - CMO is involved in oversight of appropriate testing



Lovelace
Health System

- Policies, procedures and protocol

Excellence...Always!
LOVELACE MEDICAL CENTER

SKILLS PERFORMANCE REVIEW

Daily Room Cleaning

Occupied Patient Room: Isolation Room-C-diff

TALKING POINTS:

- All Occupied patient rooms will be cleaned daily and upon discharge.
- Germicidal Bleach Wipes are to be used for all C-diff rooms. Contact time is 4 minutes.
- High touch surfaces are those that have frequent contact with hands. High touch surfaces in care areas require more frequent cleaning and disinfection than minimal contact surfaces. Cleaning and disinfection is usually done at least daily and more frequently if the risk of environmental contamination is higher (such as ICU).
- Bed hand rails, nurse call box, telephone, bedside table, patient chair, Room door handles-interior/external, light switches, computer keyboards, in-room sinks, toilet seat, toilet handle, toilet handle rails, bathroom sink, restroom light switch, and restroom door handle interior and exterior.
- Hotzones:** the equipment and areas closest to the patient are the most contaminated and considered the "hot zone." When you move further from the patient, surfaces are less contaminated. Starting with the bed, clean the hot zone, take a fresh cleaning wipe and work clockwise from cleaner to dirtier.
- Emptied waste will be deposited in the appropriate container: red waste bags will be placed in biohazardous waste receptacles and clear bags will be placed in regular waste receptacles.
- Do not wear gloves outside of room: if you have to leave the room after you have started a room clean, removed gloves and perform hand hygiene. Put a new pair of gloves on to resume cleaning.

PERFORMANCE SKILL

- Check for isolation status
- Performed hand hygiene.
- Don appropriate Personal Protective Equipment (PPE)
- Use AIDET to introduce yourself to the patient
- Check Sharps container, change if necessary.
- Empty the trash container. Wipe out with a hospital approved **germicidal bleach disposable Wipes** and replace bag liner.
- Clean the Patient Bed with **germicidal bleach disposable wipes**.
 - Raise and wipe down arm rails *High touch areas
 - Wipe foot of bed
 - If the call box or phone is on the bed, wipe these down at this time

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...onist and/or clinical leadership to ensure patients who

PURPOSE: To provide *C. difficile* antiseptic patient room terminal cleaning when a patient is discharged, transferred, or removed from isolation status.

EQUIPMENT:
+ set-up
- appropriate personal protective equipment (PPE) in accordance with
- ons. Must have goggle and face mask on.

contaminate their hands before and after contact with any beginning and end of their shift. Staff may carry hospital-sterilized gloves in their pockets unless contradicted by Department policy. Staff should be trained on ATP (adenosine triphosphate) bioluminescence testing to monitor cleanliness results and will be used through random audits to ensure hand hygiene completion.

ured and follow proper hand hygiene with soap and water).

ly (if the door is closed), greet patient and

ning.

following work procedures by working your way

ght. Ensure you do not leave the room for needed

stacles into your trash container, place all trash in a

daily the room with bleach solution and or bleach

Signature, window sills, led

etc.

Following work completion, ensure you do not leave materials into your trash container, place all trash in a daily the room with bleach solution and or bleach and or bleach wipes all furniture, window sills, ledges, open shelving, lights, over bed tables, lamps, etc. cleaner.

is, open shelving, hanging
s cleaner.
ly with bleach solution and/or bleach wipes.
rash after cleaning the toilet.
bleach solution.
ded by requesting additional personnel to deliver while in
noosing our facility and allow them to know you will be around
quipment with bleach solution.

FOR C-DIFF Isolation Discharge Terminal Cleaning

Precautions are FOR
Put on appropriate clothing and PPE

To prevent *Clostridium difficile* infections (CDI) which are becoming increasingly prevalent in healthcare settings. These organisms have a propensity to cause infection in patients with defects in their normal host defenses, those being treated with broad-spectrum antibiotics. Hospitals and facilities are currently a major environment for acquisition and transmission of these organisms.

Department will provide advice to the Infection Control (IPC) and internal departments, provide surveillance for appropriate internal and external stakeholders, and take appropriate action.

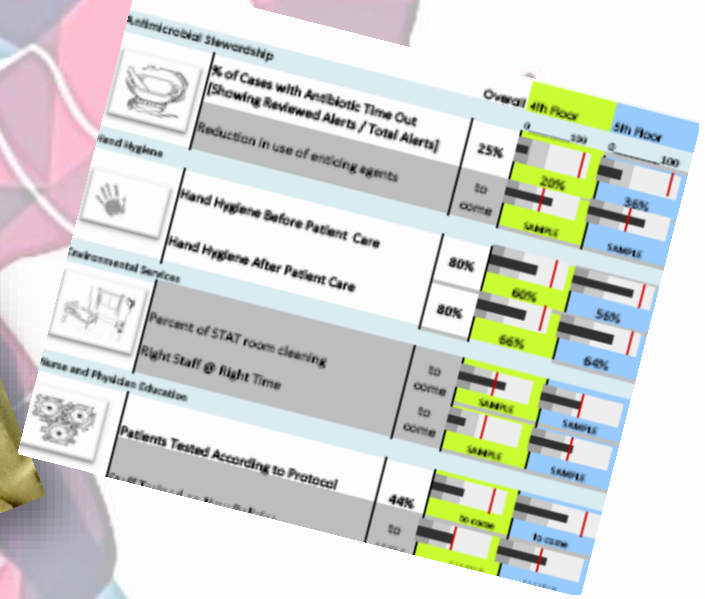
ALL health care workers to adhere to hand hygiene and fully given that the major mode of spread for many of kinds of health care workers. Health care workers are encourage good infection prevention practices in their

ditioners to use antibiotics judiciously as the use
known to increase the likelihood of infection
may provide guidance regarding
cribing.

may provide guidance regarding

And we measured....

- Measured and monitored progress from June 2016 through January 2018 when the project phase was complete and the changes were operationalized
- ...and we continue to monitor
- and celebrate





Questions?