LET'S WIPE C.DIFF AWAY!

Reducing Hospital-Acquired C.difficile Infections Through an RN-Driven C.Diff Protocol

Charleston Area Medical Center, Inc. (CAMC)

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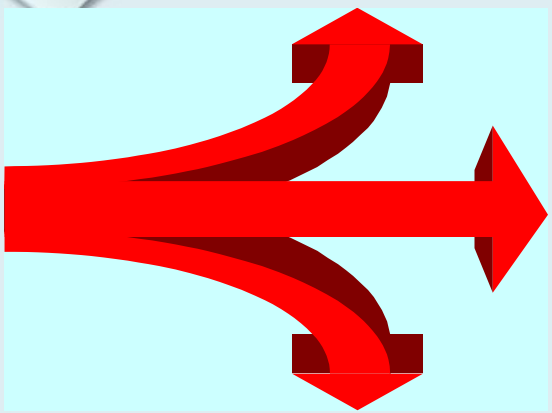
Mission:

Striving to provide the best health care to every patient, everyday.

CAMC
West Virginia's Largest Hospital

7,801 Employees- 6,795 FTE's



621 Members of the Medical Staff

369 Advance Practice Staff: APRN, CRNA, Midwife, PA

956 Licensed Beds

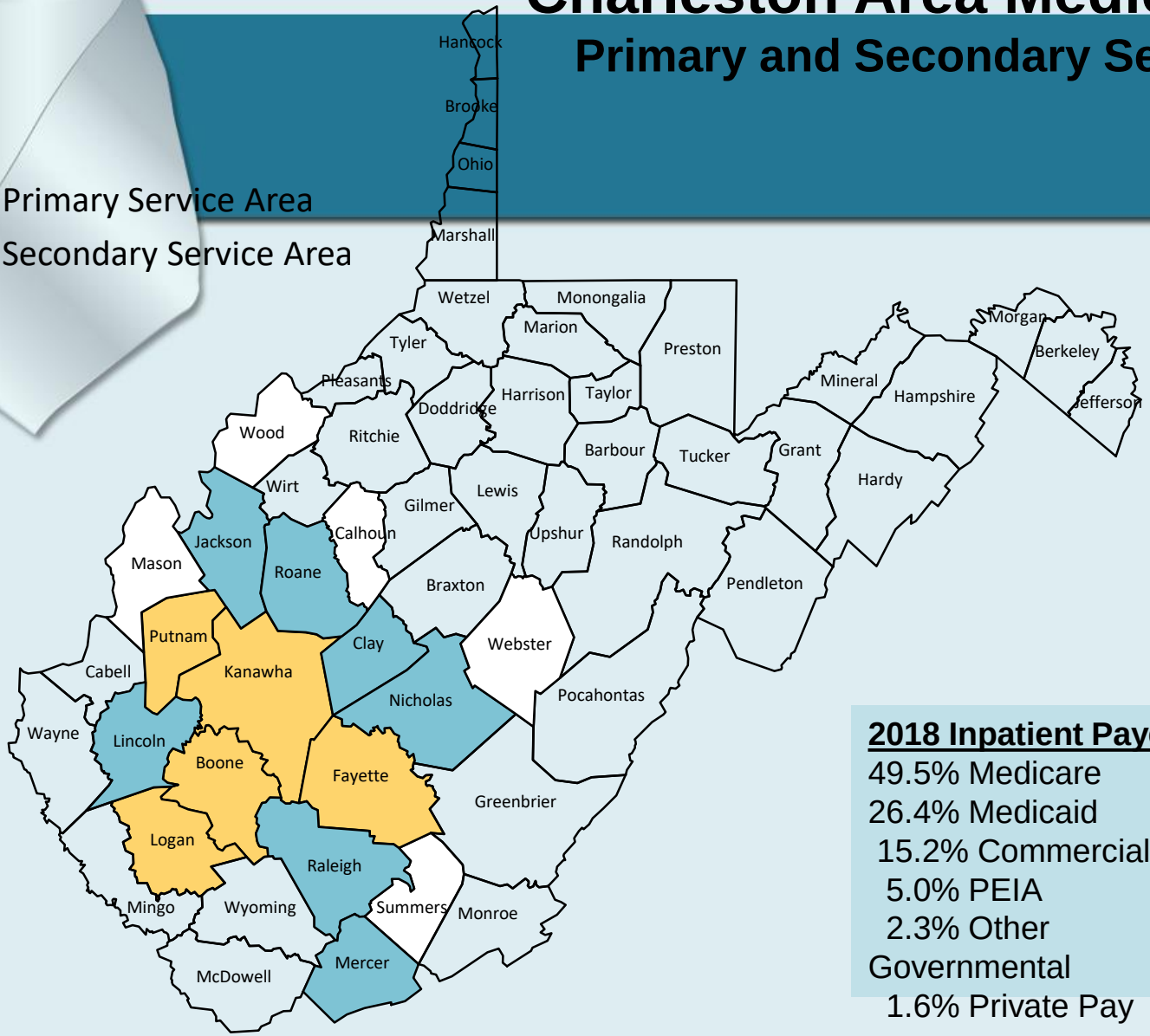
268 General Division
472 Memorial Division
146 Women and Children's Hospital
70 Teays Valley Hospital

Charleston Area Medical Center

Primary and Secondary Service Area

Primary Service Area

Secondary Service Area



2018 Inpatient Payer Mix

49.5% Medicare
26.4% Medicaid
15.2% Commercial
5.0% PEIA
2.3% Other Governmental
1.6% Private Pay

Learning Objectives

Impact of C.Diff	Learn about the prevalence of C.Diff and CAMC's current C.Diff infection rates
Bristol Stool Chart	Review use of the Bristol Stool Chart for stool assessment
RN-Driven C.Diff Protocol	Understand the importance of early detection for early intervention and implementation of the protocol in Cerner

Impact of C.Diff

C-diff by the numbers

DEADLY DIARRHEA:
C. DIFFICILE CAUSES IMMENSE SUFFERING, DEATH

CS253604

IMPACT

Caused close to half a million illnesses in one year.

Comes back at least once in about 1 in 5 patients who get *C. difficile*.

For people over 65, one in 11 died of a healthcare-associated CDI within a month of receiving a diagnosis with *C. difficile*.[1]

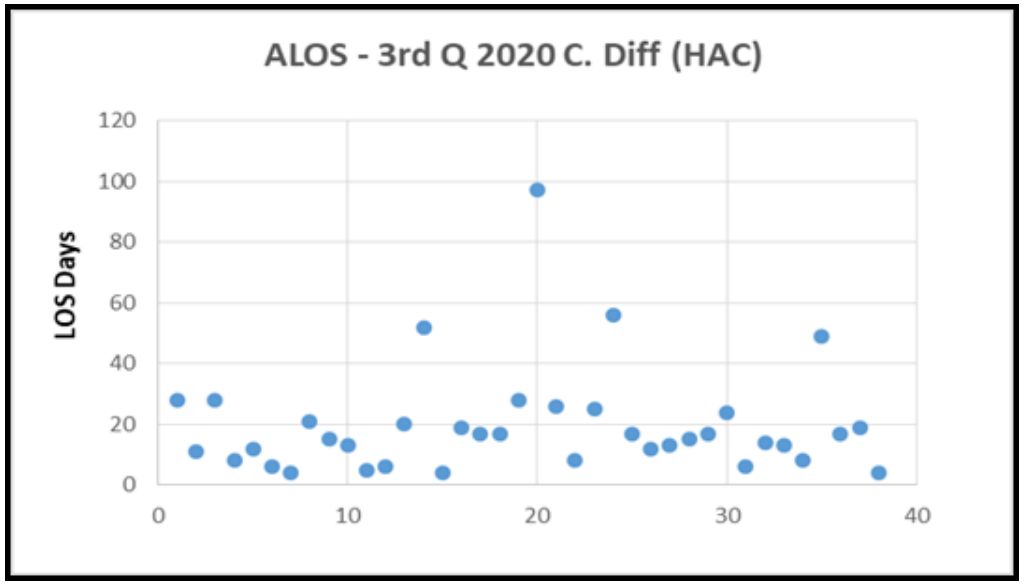
RISK

People on antibiotics are 7-10 times more likely to get *C. difficile* while on the drugs and during the month after.

Being in healthcare settings, especially hospitals or nursing homes.

More than 80% of *C. difficile* deaths occurred in people 65 and older.

C.diff Balancing Measures: (1) LOS (2) Cost of care



Hospital Name	FY2020 PSI 90	FY2020 (CLABSI)	FY2020 (CDI)	FY2020 (CAUTI)	FY2020 SSI Colon Hyst	FY2020 MRSA	HAC Penalty	HAC Score Simulation
CAMC General Hospital (CMS 2020 Report)	1.65	0.42	0.47	-0.32	1.67	0.64	YES	0.76
CAMC C. Diff Improvement Simulation	1.65	0.42	-1.5	-0.32	1.67	0.64	YES	0.43
CAMC C.Diff + CLABSI Improvement Simulation	1.65	-1	-1.5	-0.32	1.67	0.64	NO	0.19

Unreimbursed Cost	$	2,869,360
VBP Bonus	$	256,000
Total CDI Impact	**$**	**3,125,360**

Financial Impact of C. difficile Reduction Based on $27,590 Unreimbursed Cost/case and on Averaging 5 CDI's per Month

Time Frame	# of Patients >/ 10 days LOS after (+) Test	Average Cost of Care*	Total Cost of Care
3rd Q 2020	14/38	$34,000	$476,000

Key Takeaway: The ALOS from the time the patient tested positive to the time the patient was discharged was 11.3 days.

*Cost of hospital management of Clostridium difficile infection in United States—a meta-analysis and modelling study, Zhang, et. al, 2016

CAMC C.Diff
Standard Infection Ratio* [SIR]

CAMC Combined (Gen, Rehab, Mem, WCH, TV) C diff LabID Events					
Summary Yr/Qtr	Months	CDI Facility Incident HO (Healthcare Onset) LabID Event Count	Number Predicted	Patient Days	SIR
2019Q1	3	50	40.387	52505	1.24
2019Q2	3	29	42.885	51214	0.68
2019Q3	3	38	38.117	50845	1.00
2019Q4	3	38	42.189	52599	0.90
2019 YTD	**12**	**155**	**163.578**	**207163**	**0.948**
2020Q1		No data			
2020Q2		No data			
2020Q3	3	38	28.806	48736	1.32
2020 YTD	**3**	**38**	**28.806**	**48736**	**1.32**

KEY TAKEAWAY: 3rd Quarter 2020 = **38** total Hospital Acquired CDIs.
SIR = 1.32 [exceeds CMS threshold of .748]

*SIR = statistic used to track healthcare associated infections (HAIs) over time and compares the actual number of HAIs at each hospital to the predicted number of infections.

C.Diff Reduction Goal

2020 objectives set by US Department of Health and Human Services (HHS) – 30% reduction goal

Table 1: 2020 National Acute Care Hospital HAI Metrics

Measure (and data source)	Progress made by 2016	2020 Target (from 2015 baseline)
CLABSI (NHSN)[1]	10% reduction	50% reduction
CAUTI (NHSN)[1]	6% relative reduction	25% reduction
Invasive MRSA (NHSN/EIP[2])	8% reduction	50% reduction
Hospital-onset MRSA (NHSN)	6% reduction	50% reduction
Hospital-onset CDI (NHSN)	7% reduction	30% reduction
SSI (NHSN)	Data to be released in 2018	30% reduction
Clostridium difficile hospitalizations (HCUP)[3]	Data pending release	30% reduction

D M A I C

C.DIFF Outcome Measures: Decrease NHSN SIR to .76 and 30% reduction of facility cumulative attributable difference (CAD)

Facility	Multiplier	Number of Beds	Patient Days	Admits	CDIF Facility Incident ~HO	CDIF CO-HCFA	Number predicted	SIR	Facility ~ CAD	Target	Exceeds	Max
MH	.70	472	94142	14513	75	15	77.55	.967	20.71	<20.71	14.50	<14.5
GH	.70	268	43181	7492	34	8	29.00	1.172	13.7	<13.7	9.59	<9.59
WCH	.70	146	12858	3356	0	1	5.64	0	-3.95	0	0	0
TVH	.70	70	9312	1509	6	2	6.93	.865	1.15	<1.15	.81	<.81

1st Q 2020

2020 3Q	Multiplier	Number of Beds	Patient Days	Admits	CDIF Facility Incident ~HO	Number predicted	SIR	Facility ~ CAD
MH	0.7	472	29443	4495	26	16.53	1.573	14.43
GH	0.7	268	14354	2464	10	10.06	0.994	2.96
WCH	0.7	146	3635	1725	1	1.54	0.648	-0.008
TVH	0.7	70	3395	469	2	1.66	1.207	0.84

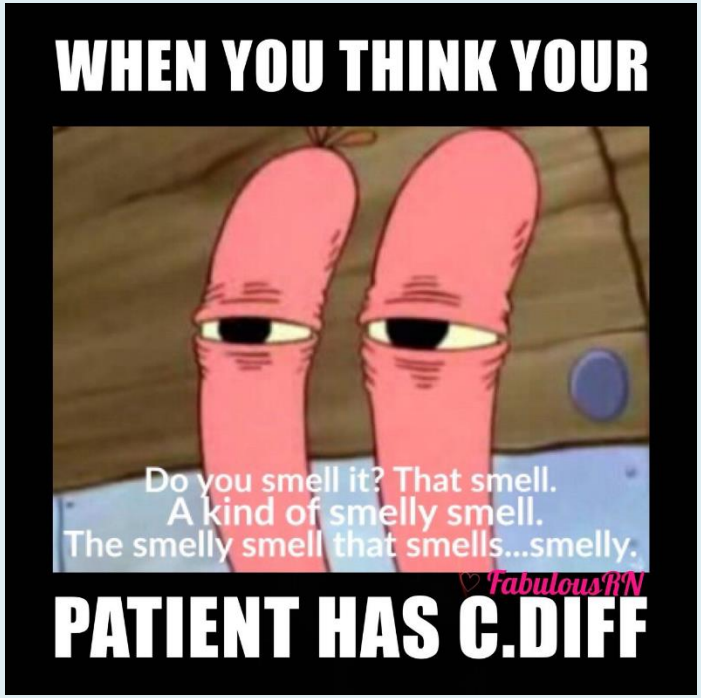
3rd Q 2020

Key Takeaway:

Facility Cumulative Attributable Difference (CAD) is the number of C.diff cases that needs to be eliminated to reach the National Healthcare Safety Network [NHSN] goal of a 30% reduction in C-diff SIR rate *(difference of what was observed and what was expected).*

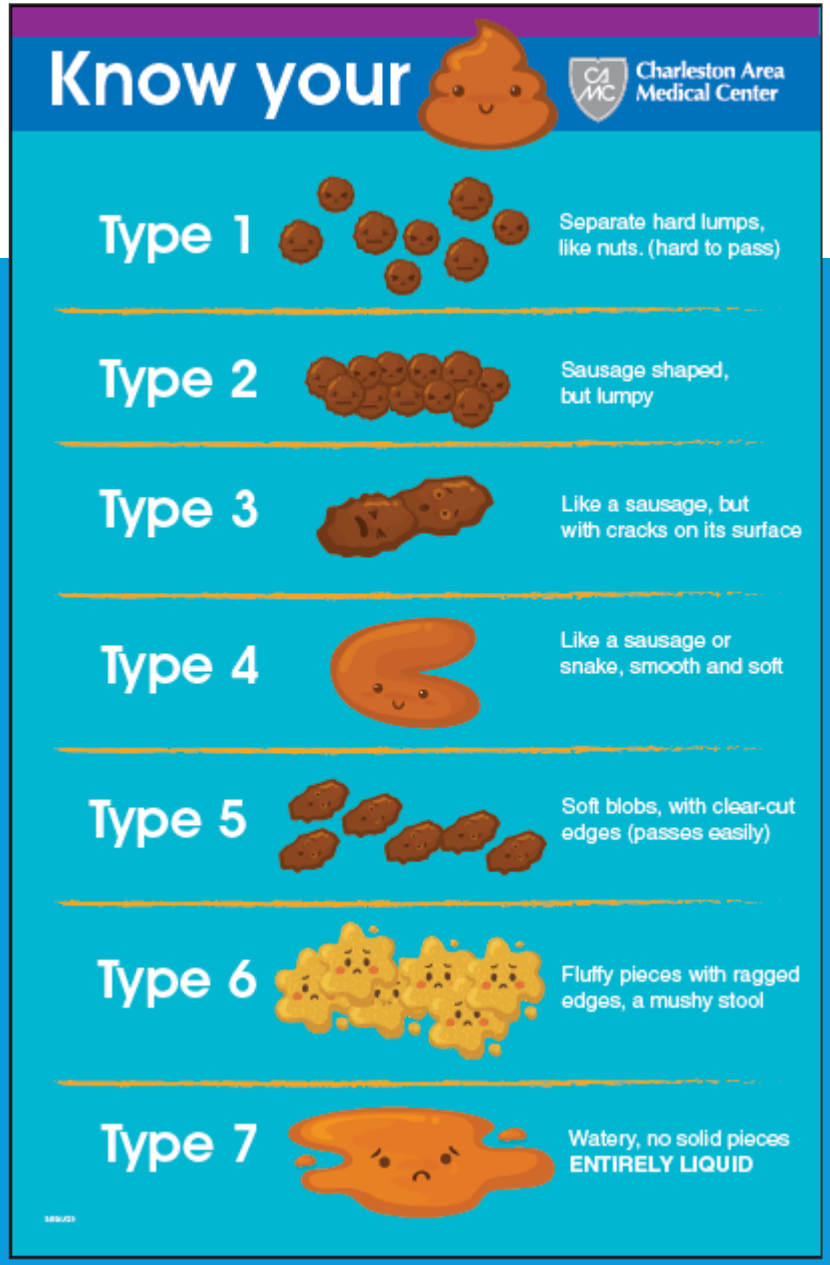
Current Practice for Detecting C. Diff

- At CAMC, we currently do not have a set protocol for the detection and early diagnosis of C. Diff in our patients
- Testing and collection of stool samples from patients often occurs ***after*** there is a suspicion that a patient may have C. Diff
  - RN's go by the "***smell method***" (this is not proven to be effective, C. Diff has been found in patients that didn't have the infamous smell to their stool and vice versa. This may have caused unnecessary testing in the past)
  - Providers will order a C. Diff test once a patient develops diarrhea (although the cause for diarrhea is not thoroughly investigated)



BRISTOL STOOL FORM SCALE

- The Bristol Stool Form Scale (BSFS) is a 7-point scale used extensively in clinical practice and research for stool form measurement
- Adapted into a number of languages and has been modified for use in children



- Studies* have shown that BSFS demonstrated substantial validity and reliability

*Validity and reliability of the Bristol Stool Form Scale in healthy adults and patients with diarrhea-predominant irritable bowel syndrome. M.R. Blake, J.M. Raker & K.Whelan

Key to Success

- **Early Detection for Early Intervention**

Goal:

- Early detection of community acquired C Diff infections.
- Eliminate 3,4 and 5 day detection of community acquired infections. ***Any C Diff infection identified past 2 days is considered hospital acquired and counts against us.***

FACTS:

Approximately 75% of positive C.Diff Infection (CDI) tests are present on admission suggesting that the community burden of CDI is much more common than previously believed. Therefore, early detection and intervention is key. If the positive CDI is detected on the day of admission or the day after, this would be considered as present on admission or community onset.

Testing the right patient at the right time.

Goal is testing the right patient at the right time with the right specimen type with a reliable assessment to identify history of diarrhea and reliable initiation of Isolation/Contact Precautions during “rule out”

RN-DRIVEN C.DIFF PROTOCOL

- Allows for early detection & collection of stools
- Eliminates need for order/signature

- Puts authority at the beside
- Utilizes best practice & CDC guidelines

VERSION 9/25/20

RN-DRIVEN C.DIFFICILE TESTING PROTOCOL

Have you observed or has patient reported ≥ 3 soft, mushy or liquid stools (Type 5, 6 or 7 on Bristol Stool Chart) in the prior 24 hours?

NO → RN-driven protocol cannot be used. Contact provider with any concerns about stool. Provider may order specimen if there is strong clinical suspicion for an active C.Diff infection that is not already known

YES

(+) C.Diff test within the past 14 days?
(-) C.Diff test within the past 7 days?

YES → Place patient in Contact Isolation – Soap/Water → YES

NO

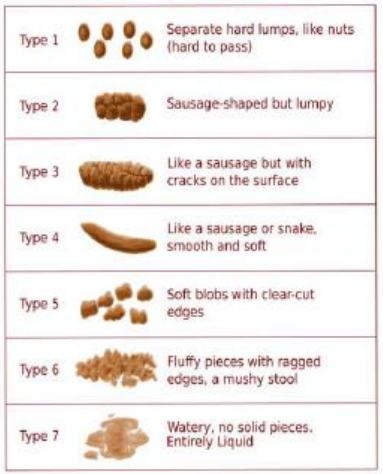
Has patient received bowel prep, tube feedings or laxative therapy within the last 24 hours?

NO → **RN orders the C.Diff Detection Test & places patient on Contact Isolation – Soap/Water**

- **POSITIVE TEST RESULT** → RN notifies Provider of critical lab result. Keep patient on Contact Isolation – Soap/Water
- **NEGATIVE TEST RESULT** → RN notifies Provider. Ask if other infectious causes need to be ruled out or if isolation can be removed.

YES → **STOP**
RN-driven protocol cannot be used. Contact provider with any concerns about stool

Bristol Stool Chart



Admission History Power Form

- ✓ General Info
- Interpreter Servic
- ✓ Subjective
- Pain History Revie
- * Tobacco/Alcohol
- * Immunizations
- Transfusion Inquir
- * Nutrition
- * Functional Assess
- Functional Assess
- Living and Resou
- Psychosocial/Spi

Date of Last Bowel Movement

Constipation Duration

Diarrhea Frequency

Vomiting Frequency

Vomiting Duration

Have you observed or patient reported >=3 soft, mushy or liquid stools (Type 5, 6, or 7 on Bristol Stool Chart) that are new in the prior 24 hours?

(•) Yes ( ) No

(+) C.Diff test within the past 14 days?

( ) Yes (•) No

(-) C.Diff test within the past 7 days?

(•) Yes ( ) No

Have you recently undergone bowel prep?

( ) Yes (•) No

Are you currently receiving Tube Feeding?

( ) Yes (•) No

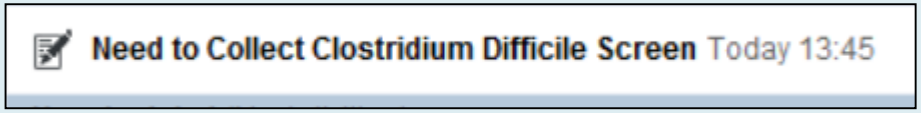
Do you regularly take laxatives?

( ) Yes (•) No

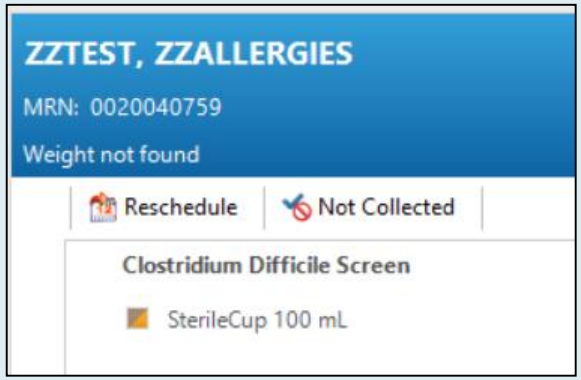
Genitourinary Symptoms

Bladder Accidents within the last 4 days?

Specimen Collection Order from Task List



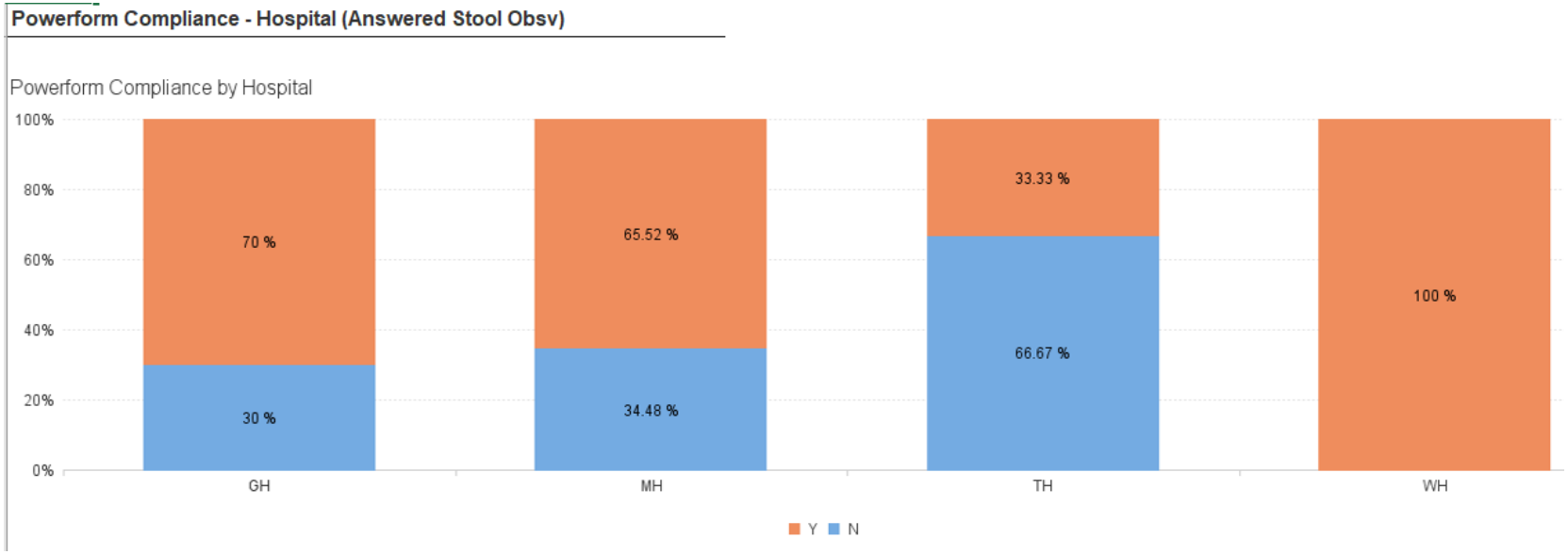
Specimen Collection from the tool bar



Specimen collection screen to collect specimen

AUTO-ORDER WILL EXPIRE AFTER 48 HOURS.
RN has to call the provider to obtain C.Diff specimen order past 48 hours.

C-Diff Questions Compliance



	10	29	3	1	43
	GH	MH	TH	WH	Sum:
Y	7	19	1	1	28
N	3	10	2		15

100% of admitted patients the questions were answered upon admission

C-Diff Questions Compliance

Answered Yes/No or Unable to Assess to: Have you observe or patient reported >= 3 soft, mushy or liquid stools that are new in the prior 24 hours?

Response	TotalCases
No	24
Unable to assess	1
Yes	3

TotalCases	43

The 3 cases that were answered yes, were collected in the first 48 hours and one was positive. Patient had been appropriately isolated, provider notified and appropriate treatment began.

No Ifs, Ands or Butts about it...

Let's WIPE C.DIFF AWAY!

Top 3 units with highest monthly utilization rate of RN Driven C.Diff Protocol on admission

Top 3 units with highest quarterly utilization rate of RN Driven C.Diff Protocol on admission

RNs are on the driver's seat…

We are counting on you to make a C-Difference!