

* Developing a Surveillance Plan

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* Objectives

- * Help develop a Surveillance Program specific for your site
 - * Building your Risk Assessment
 - * Based on Current Standards and APIC Recommended Practices
- * Understand Case Definitions for Surveillance
 - * McGeer's definitions
 - * Pneumonia
 - * UTI
- * Aggregate the data into a quality metric and improvement program
- * Rapidly identify cluster infections/outbreaks

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* Assessing your Program

- * Assess the population (risk assessment)
- * Select the outcome or process to be measured
- * Use surveillance definitions
- * Collect surveillance data
- * Calculate and analyze the data
- * Apply risk stratification
- * Report and use data for improvement

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* Infection Prevention Risk Assessment

What is it?

- * Part of infection prevention planning process
- * Serves as a starting point for a well-developed plan
- * Together with plan forms the foundation for a program
- * Assists in focusing surveillance and other program activities

Why do we do it?

- * Standard of Practice-develop a plan based on risk assessment
 - * QAPI

Reference: CDC Guidelines for Isolation Precautions, SHEA/APIC Guideline: Infection prevention and control in LTC 2008

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* Risk Assessment Influences

- * Identify risks and transmission of infections based on:
 - * Geographic location, community, and population served
 - * Care, treatment and services provided
 - * Analysis of surveillance activities and infection data
- * Reviewed annually or when there are significant changes

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* Risk Assessment Influences, cont.

- * Risk assessment occurs with interdisciplinary team input
 - * Infection Prevention Personnel
 - * Medical Director (F501)
 - * Nursing
 - * Leadership
 - * Environmental Services (Maintenance, Housekeeping, Laundry)
 - * Pharmacy & Lab

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*Risk Assessment



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*Understanding your Facility

- *Risk Assessment - Does your facility have residents with:
 - *Acuity, mobility and incontinence issues
 - *Ventilators, central lines
 - *Foley catheters
 - *Pressure ulcers
 - *C. diff
 - *History of MDRO colonization/infection
- *Admissions of post surgical patients

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* Risk Assessment-Environment

- * Be aware of environmental factors that pose risks :
 - * Visitors and volunteers
 - * Pet Therapy: dogs, cats, fish, birds..... (MRSA, Edwardsiella, Toxoplasma)
 - * Physical therapy: whirlpools, shared equipment
 - * Vaccine Status for employees and residents
 - * Influenza, Pneumococcal, Tetanus, Pertussis
 - * Water features (Legionella)
 - * Healing gardens (Tetanus & Strep)

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* Risk Assessment: Physical

- * Do you have:
 - * Shared resident rooms, shared bathrooms
 - * Separate sinks for hand hygiene, cleaning of urinals, bed pads, TEDs stockings, etc.
 - * A dining room that is also a multipurpose room

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* Making all of this make sense

- Various ways to explain, view your risks

Uses a scoring system

Uses descriptors

* Displaying your Risk Assessment

Pull out the handout-three categories need to be addressed

1. Probability of occurrence
2. Required response
3. Potential change in care...

| Event | Probability of Occurrence | Required Organizational Response | Potential Change in Care, Treatment, Services | Preparedness | Risk Level |
|---|------------------------------|---|---|------------------------|------------|
| Score (rated by numbers) | High-3, Med-2, Low-1, None-0 | Life threat-3, Perm harm-2, Temp harm-1, None-0 | High-3, Med-2, Low-1, None-0 | Poor-3, Fair-2, Good-1 | |
| TB Population | 2 | 1 | 2 | 1 | 6 |
| MDRO colonization in residents | 2 | 1 | 2 | 2 | 7 |
| Resident with permanent Foley Catheter | 3 | 3 | 3 | 1 | 10 ★ |
| Resident Influenza Vaccinations | 3 | 3 | 2 | 1 | 9 ★ |
| Outbreaks of infectious disease (Influenza) | 3 | 3 | 2 | 1 | 9 ★ |
| Post Operative Therapy | 3 | 2 | 2 | 1 | 8 |
| Wound Therapy | 1 | 2 | 3 | 3 | 9 ★ |

sample

*How to Assign Values

- * There are no right or wrong answers
- * Allow for discussion
- * Push group for consensus
- * Keep group focused, on target
- * Important to be consistent
- * Go through entire list of risks
- * Assign someone to calculate risk scores

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*Risk Score & Prioritizing

- * Add up the probability, risk, preparedness
- * Group consensus vs. mathematical value
- * Rank order risks using risk scores
- * Each organization's priorities will be different

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*Risk Assessment Exercise:

- *Give you fictitious setting
- *Each table create a risk assessment
- *Focus on the **Human Risk Factors**
- *Discuss potential risk
- *Come to group consensus on assignment
- *Add scores to calculate risk

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*Happy Valley Care Center Sunshine, Wisconsin

- *120 bed facility
- *25 new admits a month
- *Skilled nursing facility
 - *No vents
 - *Short term rehab (PT, OT, Speech)
 - *IV therapy
- *Average resident age is 85, with a mix of men/women and ethnicity.

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* Happy Valley Care Center Sunshine, Wisconsin

- * Facility was built in 1973 with additions in 1992 and 2005
- * Healing Garden outside
- * Green house inside
- * Water feature in the community room
- * Pet therapy

Infection Risk Mitigation Plan 2013

| Event | Probability of Occurrence | | | | Required Organizational Response | | | | Potential Change in Care, Treatment, Services | | | | Preparedness | | | Risk Level |
|--|---------------------------|-----|-----|------|----------------------------------|-----------|-----------|------|---|-----|-----|------|--------------|------|------|------------|
| | High | Med | Low | None | Life threat | Perm harm | Temp Harm | None | High | Med | Low | None | Poor | Fair | Good | |
| Score: | 3 | 2 | 1 | 0 | 3 | 2 | 1 | 0 | 3 | 2 | 1 | 0 | 3 | 2 | 1 | |
| Geography - Also note the EOC HVA | | | | | | | | | | | | | | | | |
| TB Population | | | | | | | | | | | | | | | | |
| MDRO patients | | | | | | | | | | | | | | | | |
| Trauma Patients on Vent | | | | | | | | | | | | | | | | |
| Community | | | | | | | | | | | | | | | | |
| Outbreaks of infectious disease (influenza) | | | | | | | | | | | | | | | | |
| Food/Waterborne disease (E-coli 0157:H7, cryptosporidium, shigellosis) | | | | | | | | | | | | | | | | |
| Vaccine-preventable illness (chickenpox, mumps, Pertussis) | | | | | | | | | | | | | | | | |
| Population | | | | | | | | | | | | | | | | |
| Children | | | | | | | | | | | | | | | | |
| Adults | | | | | | | | | | | | | | | | |
| Elderly | | | | | | | | | | | | | | | | |
| Employee Risks | | | | | | | | | | | | | | | | |
| Lack of compliance with hand hygiene | | | | | | | | | | | | | | | | |

Numbering of the categories refers to their priority.

*** 5 Minutes to Complete**

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* Infection Prevention Surveillance Program

- *Based on your:
 - *Priorities defined in your risk assessment
 - *Accreditation mandatory documentation
- *Develop
 - *Goals and targets
 - *Strategies for process improvement
 - *Evaluation methods

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* Using Standard Language - McGeer Criteria

- *Definitions of Infection for Surveillance in Long-term Care Facilities
 - *Allison McGeer, Beverly Campbell, T. Grace Emori, Walter J. Hierholzer, Marguerite M. Jackson, Lindsay E. Nicolle, Carla Pepler, Amersolo Rivera, Debra G. Schollenberger, Andrew E. Simor, Philip W. Smith and Elain E-L Wang
 - *Originally written in 1996
 - *Revised October of 2012
- *Recognized by APIC, the CDC, SHEA and WI HAI in LTC Coalition as the gold standard.

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*McGeer's Criteria - GI

| Gastrointestinal Tract Infections (GI) | | |
|--|--|--|
| Must have <u>one</u> of the following: (Rule out non-infectious causes, for example medication changes.) | | |
| Two or more loose or watery stools above what is normal for the resident in a 24 hour period. | OR: Two or more episodes of vomiting in a 24 hours period. | OR: Must have both of these: <ul style="list-style-type: none"> • Positive stool culture for a pathogen. • One GI S/S (n/v/d or abd. pain) |

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*GI Case Study 1

- *Mr. Sam Anella is an 87 year old male, room 111
- * Admitted 3 weeks ago, s/p total knee replacement
- * No history of loose stools
- * Presented with 2 loose stools and c/o nausea on Friday pm shift
- * Medications: Colace, Verapamil. Just completed a 14 day course of antibiotics for a post surgical site infection.
- * So....does he meet McGeer Definition for surveillance?

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* GI Case Study 1

| Gastrointestinal Tract Infections (GI) | | |
|--|--|---|
| Must have <u>one</u> of the following: (Rule out non-infectious causes, for example medication changes.) | | |
| <u>Two</u> or more loose or watery stools above what is normal for the resident in a 24 hour period. | OR: <u>Two</u> or more episodes of vomiting in a 24 hours period. | OR: Must have both of these: <ul style="list-style-type: none"> • Positive stool culture for a pathogen. • One GI S/S (n/v/d or abd. pain) |

*Yes! He meets the criteria.

*Is there anything else you need to do?

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* GI Case Study 1

*Is there anything else you need to do?

*RN assessment & continue to monitor

*Are transmission precautions needed?

*Should we hold the Colace?

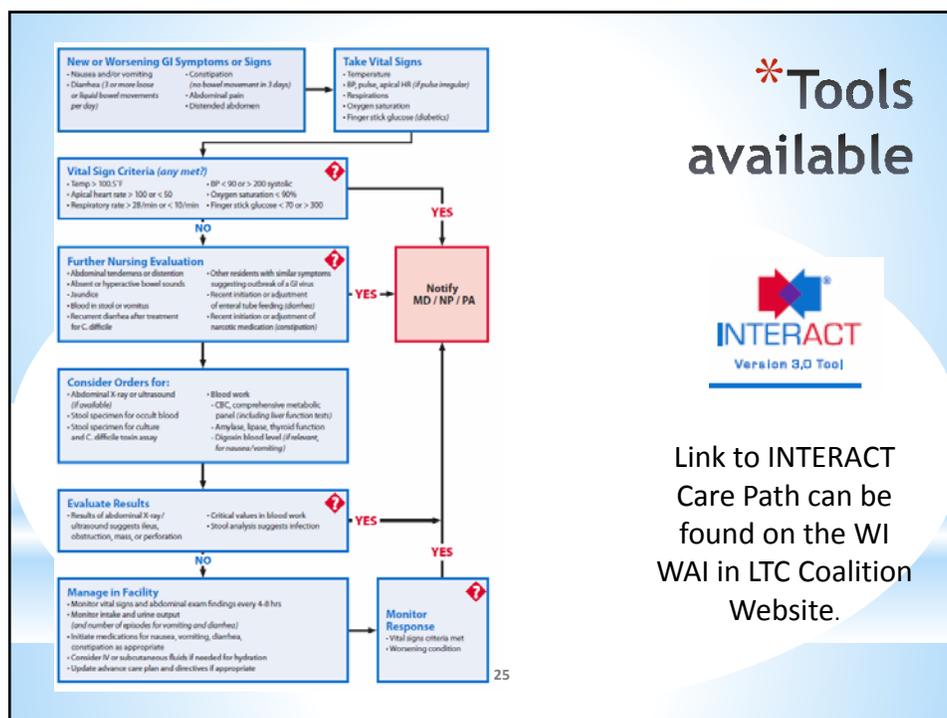
*Did his diet change?

*Add a tracking sheet to keep track of the number of loose stools

*Is a temporary care plan needed?

*Do you need to alert the DON?

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* GI Case Study 1

* Mr. Sam Anella on day 2 and 3, continues to have loose stools that are now more frequent and states he has abdominal pain.

* What pathogenicity should you be thinking about?

* What should you be doing next?

- * Isolation the resident (Contact isolation- gown and gloves)
- * Educate resident and staff about hand hygiene - soap & water
- * Attain a specimen
- * Notify the provider
- * Care plan modifications
 - * BRAT diet
 - * Fluid assessment

*McGeers: UTI

Urinary Tract Infection (UTI)

No Indwelling catheter: Both criteria one and two must be present:

1. At least one of the following S/Sx sub-criteria:
 - a) Acute dysuria or acute pain, swelling, or tenderness of the testes, epididymis, or prostate.
 - b) Fever or leukocytosis and at least one of the following localizing urinary tract sub-criteria:
 - i. Acute costovertebral angle pain or tenderness
 - ii. Suprapubic pain
 - iii. Gross hematuria
 - iv. New or marked increase in incontinence
 - v. New or marked increase in urgency
 - vi. New or marked increase in frequency
 - c) In absence of fever or leukocytes then two or more of the following localizing urinary tract criteria:
 - i. Suprapubic pain
 - ii. Gross hematuria
 - iii. New or marked increase in incontinence
 - iv. New or marked increase in urgency
 - v. New or marked increase in frequency
2. One of the following microbiologic sub criteria:
 - a) At least 100,000 (10^5) cfu/mL of no more than 2 species of microorganism in a voided urine sample.
 - b) At least 100 (10^2) cfu/mL of any number of organisms in a specimen collected by and in-and-out catheter.

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With Indwelling catheter: Both criteria one and two below must be met:

1. At least one of the following S/Sx sub-criteria:
 - a) Fever, rigors, or new onset hypotension, with no alternate site of infection
 - b) Either acute change in mental status or acute functional decline, with no alternate diagnosis and leukocytosis
 - c) New-onset suprapubic pain or costovertebral angle pain or tenderness
 - d) Purulent discharge from around the catheter or acute pain, swelling, or tenderness of the testes, epididymis, or prostate
2. Must have a urinary catheter specimen culture with at least 10^5 cfu/mL of any organism(s).

*UTI Case Study

- *Ms. Escherichia Coli is a 92 y/o female resident who is incontinent bowel and bladder. She wears incontinent briefs that are changed 4 times a day.
- *She is now not drinking
- *Increase confusion
- *Increase difficulty moving around by herself
- *1 fall noted on her chart earlier today
- *Vitals: Temp 98.2F, BP 148/94, HR 62

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* UTI Case Study

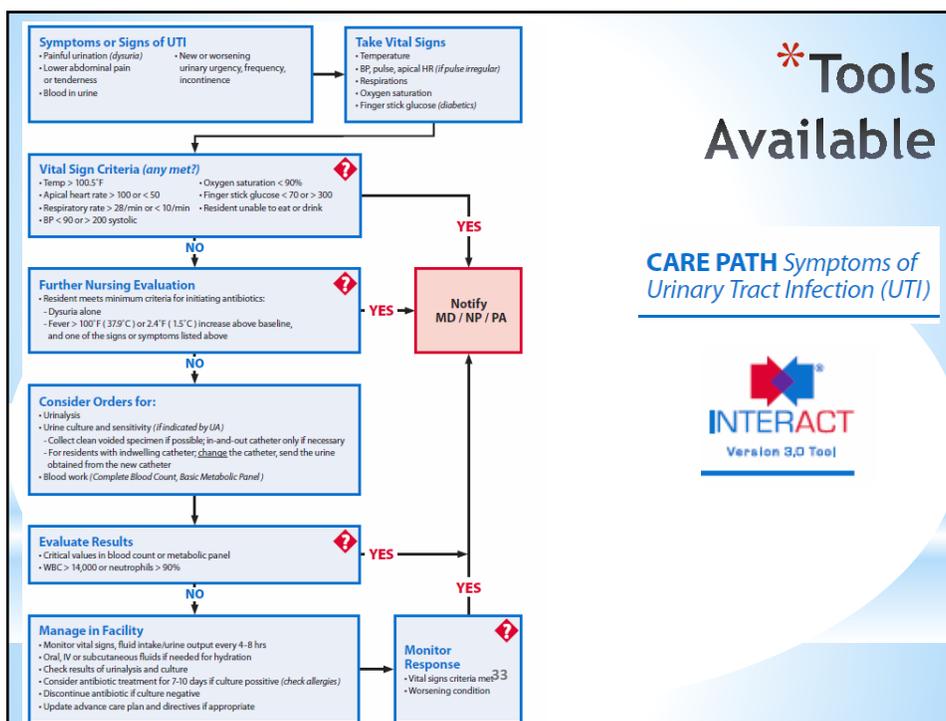
*Does she meet the McGeer's Definition

| Urinary Tract Infection (UTI) | |
|---|--|
| <p>No Indwelling catheter: Both criteria one and two must be present:</p> <p>1. At least one of the following S/Sx sub-criteria:</p> <ol style="list-style-type: none"> Acute dysuria or acute pain, swelling, or tenderness of the testes, epididymis, or prostate. Fever or leukocytosis and at least one of the following localizing urinary tract sub-criteria: <ol style="list-style-type: none"> Acute costovertebral angle pain or tenderness Suprapubic pain Gross hematuria New or marked increase in incontinence New or marked increase in urgency New or marked increase in frequency In absence of fever or leukocytes then two or more of the following localizing urinary tract criteria: <ol style="list-style-type: none"> Suprapubic pain Gross hematuria New or marked increase in incontinence New or marked increase in urgency New or marked increase in frequency <p>2. One of the following microbiologic sub criteria:</p> <ol style="list-style-type: none"> At least 100,000 (10^5) cfu/mL of no more than 2 species of microorganism in a voided urine sample. At least 100 (10^2) cfu/mL of any number of organisms in a specimen collected by and in-and-out catheter | <p>With Indwelling catheter: Both criteria one and two below must be met:</p> <p>1. At least one of the following S/Sx sub-criteria:</p> <ol style="list-style-type: none"> Fever, rigors, or new onset hypotension, with no alternate site of infection Either acute change in mental status or acute functional decline, with no alternate diagnosis and leukocytosis New-onset suprapubic pain or costovertebral angle pain or tenderness Purulent discharge from around the catheter or acute pain, swelling, or tenderness of the testes, epididymis, or prostate <p>2. Must have a urinary catheter specimen culture with at least 10^5 cfu/mL of any organism(s).</p> |

No

* UTI Case Study

- What should be your next steps?
 - RN assessment – pain, hydration, bowel status, medication review
 - Place resident on strict I&O for 3 days.
 - Monitor McGeer's definitions closely.
 - Notify provider
 - Notify of plan to monitor and increase fluids
 - do not order antibiotic at this time* (antibiotic stewardship*)



* UTI Case Study

- * Day 3, resident is not showing any signs of improvement, presents with urgency
- * UA macro (dip) is performed
 - * Leukoesterase positive
- * Notify the MD to request a urine culture
- * Does this meet our surveillance criteria?

* UTI Case Study

| Urinary Tract Infection (UTI) | |
|--|--|
| <p>No Indwelling catheter: Both criteria one and two must be present:</p> <p>1. At least <u>one</u> of the following S/Sx sub-criteria:</p> <p>a) Acute dysuria or acute pain, swelling, or tenderness of the testes, epididymis, or prostate.</p> <p>b) Fever or leukocytosis and at least one of the following localizing urinary tract sub-criteria:</p> <p>i. Acute costovertebral angle pain or tenderness</p> <p>ii. Suprapubic pain</p> <p>iii. Gross hematuria</p> <p>iv. New or marked increase in incontinence</p> <p>v. New or marked increase in urgency</p> <p>vi. New or marked increase in frequency</p> <p>c) In absence of fever or leukocytes then two or more of the following localizing urinary tract criteria:</p> <p>i. Suprapubic pain</p> <p>ii. Gross hematuria</p> <p>iii. New or marked increase in incontinence</p> <p>iv. New or marked increase in urgency</p> <p>v. New or marked increase in frequency</p> <p>2. <u>One</u> of the following microbiologic sub criteria:</p> <p>a) At least 100,000 (10^5) cfu/mL of no more than 2 species of microorganism in a voided urine sample.</p> <p>b) At least 100 (10^2) cfu/mL of any number of organisms in a specimen collected by and in- and-out catheter</p> | <p>With Indwelling catheter: Both criteria one and two below must be met:</p> <p>1. At least <u>one</u> of the following S/Sx sub-criteria:</p> <p>a) Fever, rigors, or new onset hypotension, with no alternate site of infection</p> <p>b) Either acute change in mental status or acute functional decline, with no alternate diagnosis and leukocytosis</p> <p>c) New-onset suprapubic pain or costovertebral angle pain or tenderness</p> <p>d) Purulent discharge from around the catheter or acute pain, swelling, or tenderness of the testes, epididymis, or prostate</p> <p>2. Must have a urinary catheter specimen culture with at least 10^3 cfu/mL of any organism(s).</p> <p>Does this meet criteria?</p> <ul style="list-style-type: none"> • No |

* UTI Case Study

- * Send specimen off for culture
- * Continue to push fluids
- * Perform good peri-care
- * Monitor McGeer's definitions closely.

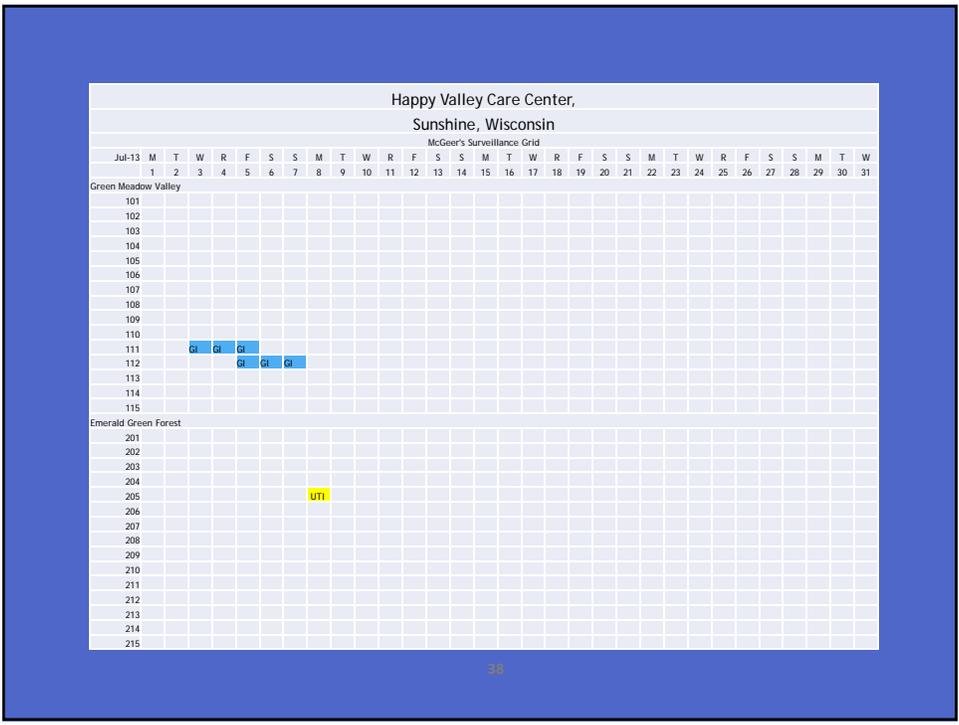
- * Culture is now positive for E. coli - 100,000 colonies
- * Does she meet the criteria now?

* UTI Case Study

Urinary Tract Infection (UTI)

| | |
|---|--|
| <p>No Indwelling catheter: <u>Both criteria one and two must be present:</u></p> <p>1. At least <u>one</u> of the following S/Sx sub-criteria:</p> <ul style="list-style-type: none"> a) Acute dysuria or acute pain, swelling, or tenderness of the testes, epididymis, or prostate. b) Fever or leukocytosis <u>and</u> at least <u>one</u> of the following localizing urinary tract sub-criteria: <ul style="list-style-type: none"> i. Acute costovertebral angle pain or tenderness ii. Suprapubic pain iii. Gross hematuria iv. New or marked increase in incontinence v. New or marked increase in urgency vi. New or marked increase in frequency c) In absence of fever or leukocytes then <u>two or more</u> of the following localizing urinary tract criteria: <ul style="list-style-type: none"> i. Suprapubic pain ii. Gross hematuria iii. New or marked increase in incontinence iv. New or marked increase in urgency v. New or marked increase in frequency <p>2. <u>One</u> of the following microbiologic sub criteria:</p> <ul style="list-style-type: none"> a) At least 100,000 (10⁵) cfu/mL of no more than 2 species of microorganism in a voided urine sample. b) At least 100 (10²) cfu/mL of any number of organisms in a specimen collected by and in-and-out catheter | <p>With Indwelling catheter: <u>Both criteria one and two below must be met:</u></p> <p>1. At least <u>one</u> of the following S/Sx sub-criteria:</p> <ul style="list-style-type: none"> a) Fever, rigors, or new onset hypotension, with no alternate site of infection b) Either acute change in mental status or acute functional decline, with no alternate diagnosis and leukocytosis c) New-onset suprapubic pain or costovertebral angle pain or tenderness d) Purulent discharge from around the catheter or acute pain, swelling, or tenderness of the testes, epididymis, or prostate <p>2. <u>Must have</u>, a urinary catheter specimen culture with at least 10³ cfu/mL of any organism(s).</p> <p style="text-align: center;">Does this meet criteria?</p> <ul style="list-style-type: none"> • YES |
|---|--|

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The screenshot displays the CDC's National Healthcare Safety Network (NHSN) website. The main focus is on the 'INTERACT' program, which aims to reduce acute care transfers in long-term care facilities. The page features a navigation bar at the top, a search function, and a list of resources including training, protocols, and support materials. A prominent video player shows healthcare professionals interacting with a patient in a hospital bed. The page also includes an 'Announcements' section with several news items related to the program's implementation and evaluation.

* Questions

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