UWTASP

tele-antimicrobial stewardship program

November 18, 2021

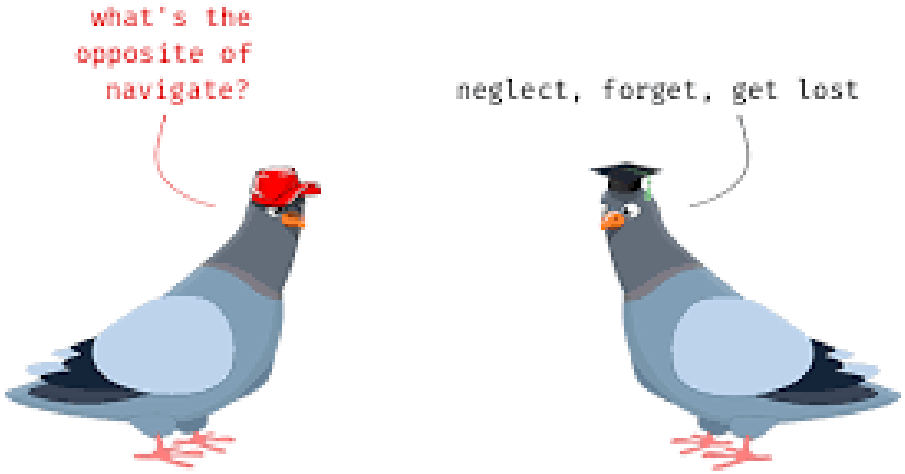
UW-TASP | Flex Program | HRSA

- Process Mapping

Process Mapping

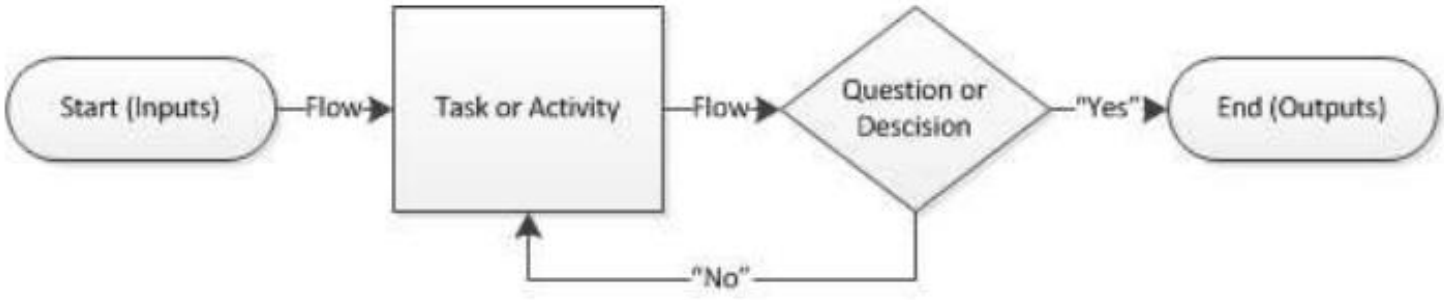
What: Graphical representation of how things get done

Why: Visualize a process to guide decision-making



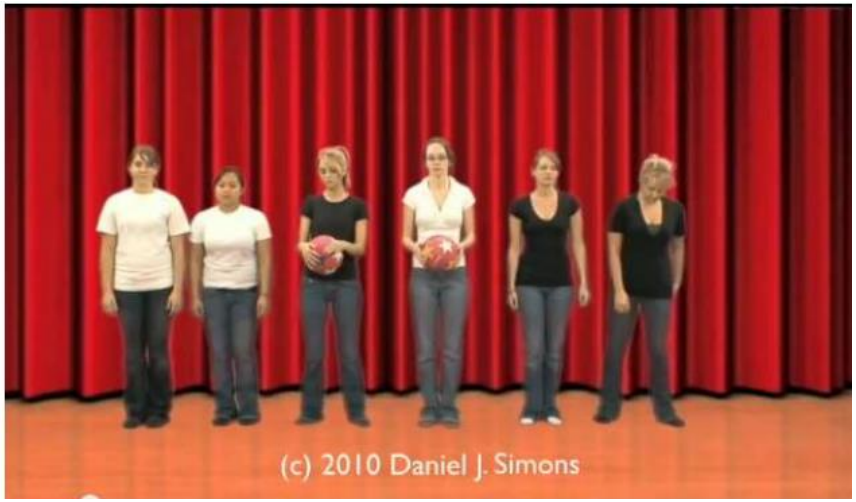
Process Mapping: What is it?

- Visual organization of interrelated activities which form a patient care pathway or process
  - Describe the current state
  - Identify opportunities for improvement
  - Optimize efficiency by removing waste



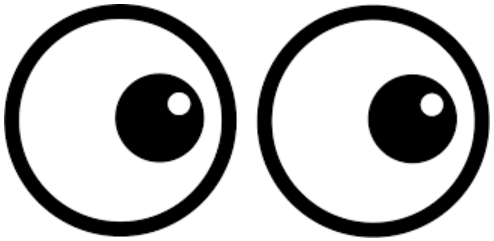
Selective attention

- How many times do the players in white pass the ball?
- Link

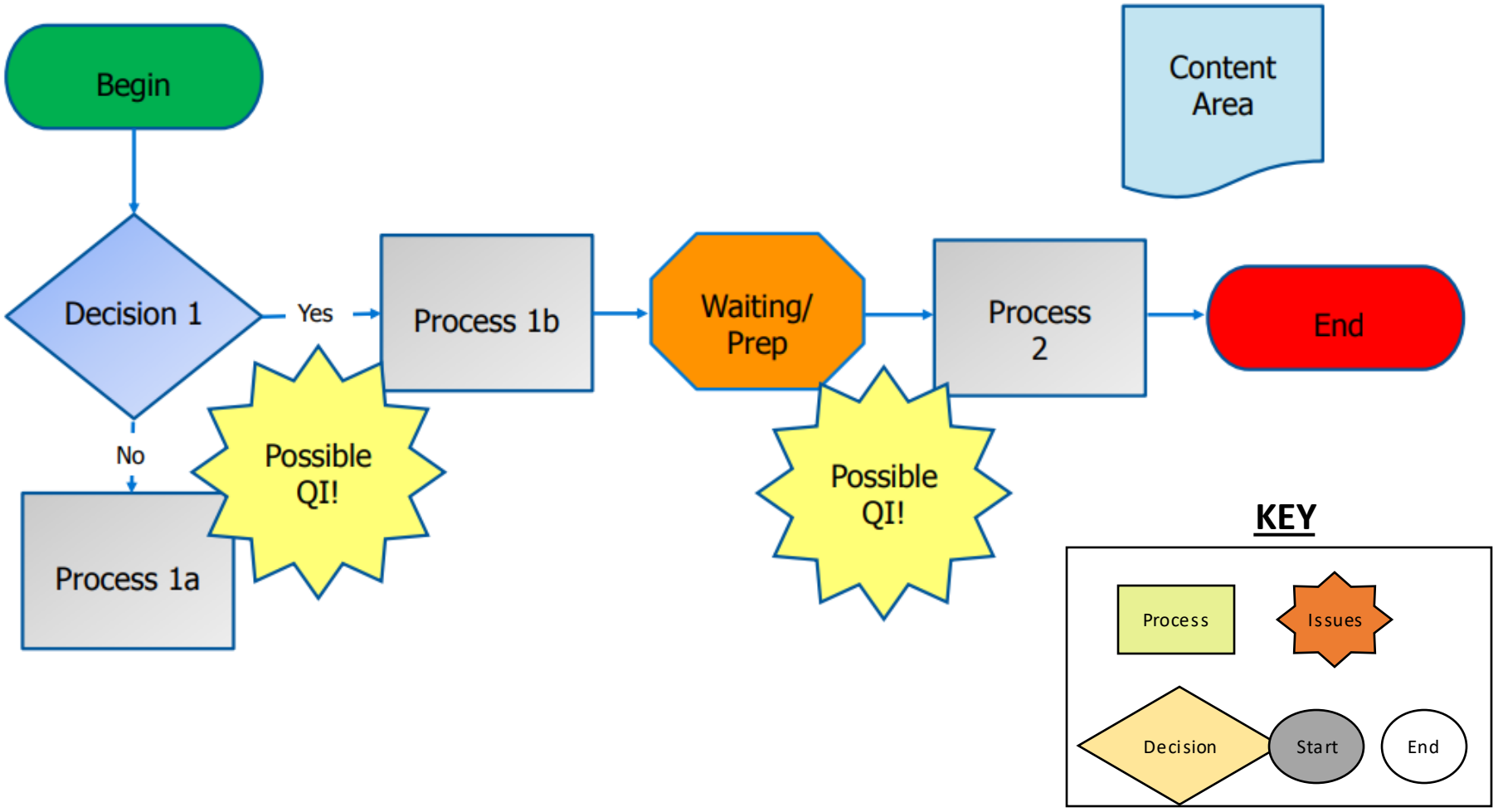


Process Mapping: Why do we need it?

- See with fresh eyes
  - Objectively describe a workflow
  - Make targeted changes
  - Institution/Process-specific



Process Mapping



Kulkarni et al. 2017. Tools and Resources for QI Success. Pediatric Hospital Medicine National Conference. http://www.sohmlibrary.org/uploads/6/5/5/8/65588793/kilkarni_toolsandresourcesqisuccess_qi.original.1501607117.pdf

Process Improvement = Survival

The New England Journal of Medicine

EARLY GOAL-DIRECTED THERAPY IN THE TREATMENT OF SEVERE SEPSIS AND SEPTIC SHOCK

EMANUEL RIVERS, M.D., M.P.H., BRYANT NGUYEN, M.D., SUZANNE HAVSTAD, M.A., JULIE RESSLER, B.S., ALEXANDRIA MUZZIN, B.S., BERNHARD KNOBLICH, M.D., EDWARD PETERSON, PH.D., AND MICHAEL TOMLANOVICH, M.D., FOR THE EARLY GOAL-DIRECTED THERAPY COLLABORATIVE GROUP*

1368 · N Engl J Med, Vol. 345, No. 19 · November 8, 2001 · www.nejm.org

The New England Journal of Medicine
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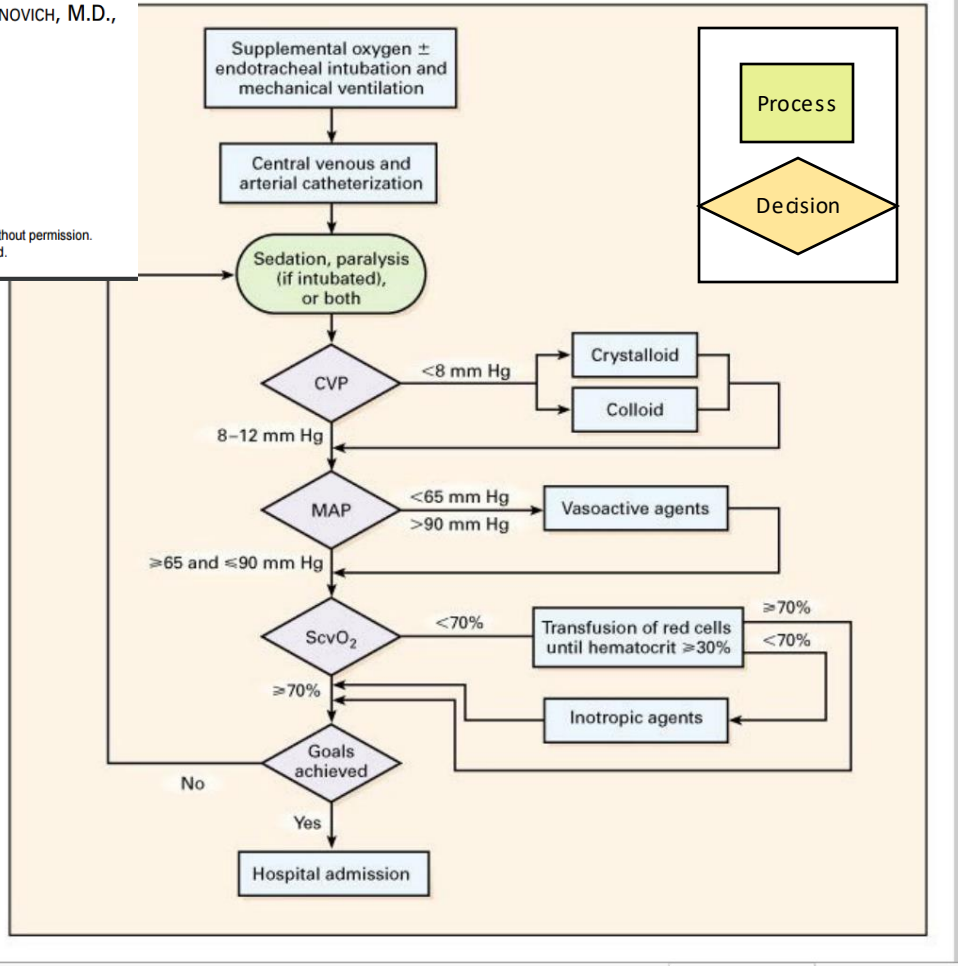
In-hospital mortality was 30.5 percent in the group assigned to early goal-directed therapy, as compared with 46.5 percent in the group assigned to standard therapy (P=0.009).



Process Improvement = Survival = Joint Commission Requirement

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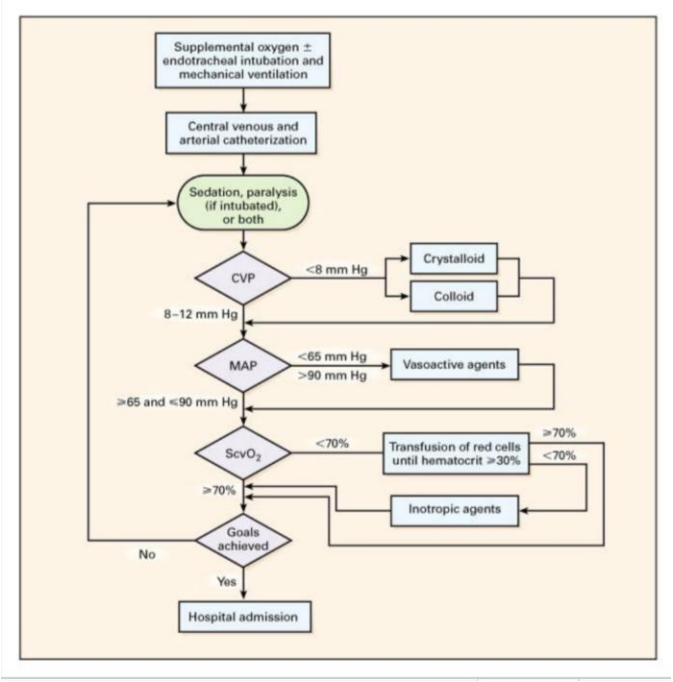


Joint Commission Center for Transforming Healthcare

Creating Solutions for High Reliability Health Care

REDUCING SEPSIS MORTALITY

- HAND HYGIENE
- HAND-OFF COMMUNICATIONS
- PREVENTABLE HOSPITALIZATIONS
- PREVENTING FALLS WITH INJURY
- REDUCING *C.difficile* INFECTIONS
- SAFE AND EFFECTIVE USE OF INSULIN
- SAFETY CULTURE
- SAFE SURGERY
- SURGICAL SITE INFECTIONS
- PREVENTING VENOUS THROMBOEMBOLISM

Process Mapping: Time Observation Sheets

Time Observation

Process: Time to ABX

Page:

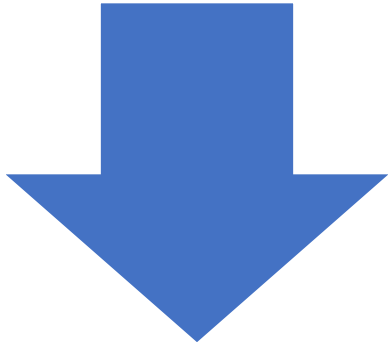
Step#	Work Element	1	2	3	Task Time	Remarks
1	Antibiotic prescribed by MD	1000	0807	1500	0	
		0	0	0		
2	Order verified by Pharmacist	1005	0820	1502	6.40”	
		5	13	2		
3	Label prints	1006	0820	1502	20"	
		1	0	0		
4	Pharm Tech pulls product and labels	1008	0822	1515	5.40”	
		2	2	13		
5	Pharm Tech makes product	1023	0830	1601	23	
		15	8	46		
6	Pharmacist checks medication	1030	0850	1616	14	
		7	20	15		
7	Medication delivered to bedside	1110	0900	1707	33.40”	
		40	10	51		
8	RN obtains medication	1140	0940	1710	21	
		30	30	3		
9	RN reviews MAR/Chart	1145	0941	1713	3	
		5	1	3		
10	Assesses availability of IV access	1151	0942	1713	2.20”	
		6	1	0		
11	Flushes line with saline	1152	0942	1715	1.20”	
		1	1	2		
12	Administers antibiotic	1152	0943	1720	2	
		0	1	5		
	Time for 1 Cycle	112	96	140	Total cycle time	

Pharmacy Tasks

Nursing Tasks

Waste vs. Value

- **Review Process Map**
  - Which activities add waste?
    - minimize/eliminate these
  - Which activities add value?
    - focus resources here



WASTE

Waiting

Late calls

Clinical errors

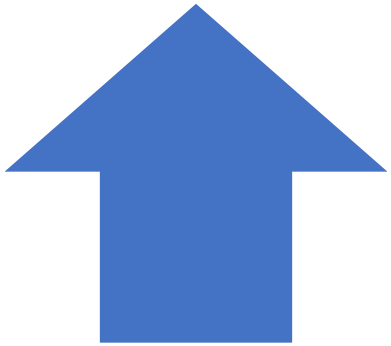
Unnecessary documentation

VALUE

Items/services patient willing to pay for

Moves care forward

Done right the first time



Defining and Minimizing Waste

Defects	Mistakes, errors, resulting rework
Overproduction	Producing too much, too soon, or setup
Waiting	For patients, providers, services, or production
Transport	Moving things around
Inventory	Too much or too little inventory
Motion	Moving people around, searching
Over-processing	Redundancy, approvals

Identifying Waste

Time Observation		
Process: Time to ABX		
Step#	**Work Element**	**Task Time**
1	Antibiotic prescribed by MD	0
2	Order verified by Pharmacist	6.40”
3	Label prints	20"
4	Pharm Tech pulls product and labels	5.40”
5	Pharm Tech makes product	23
6	Pharmacist checks medication	14
7	Medication delivered to bedside	33.40”
8	RN obtains medication	21
9	RN reviews MAR/Chart	3
10	Assesses availability of IV access	2.20”
11	Flushes line with saline	1.20”
12	Administers antibiotic	2
	Time for 1 Cycle	

Defects	Mistakes, errors, resulting rework
Overproduction	Producing too much, too soon, or setup
Waiting ★	For patients, providers, services, or production
Transport ★	Moving things around
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Time Observation and ASB

Time Observation		
Process: Time to ABX		
Step#	**Work Element**	**Task Time**
1	Patient presents to ED	
2	Urine specimen obtained	
3	Se ysis	
4	Meets re ne culture	
5	Urine culture results	
6	Urine susceptibility results	
7	Urine culture and susceptibility data reviewed	
8	Antibiotics Prescribed	

WHEN ARE SYMPTOMS ASSESSED?

Per order / per RN discretion?

Independent order?
Part of order set?

What are reflex criteria?
Urine culture/suspected infection?

Completed in-house?
Send-out to commercial or reference lab?

How long does this take?

What drug selected?
What duration selected?

After conducting time observations:

Conduct more observations

Different days, different hours, different teams

Identify waste

Defects	Mistakes, errors, resulting rework
Overproduction	Producing too much, too soon, or setup
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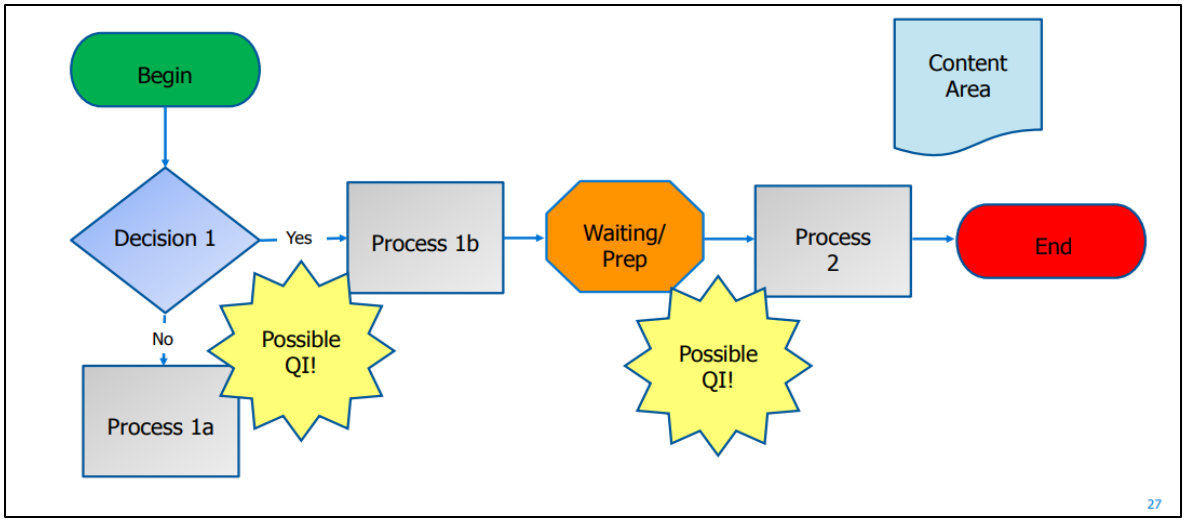
Diagram the process



Summary, Process Mapping:

- ►WHY Remove blinders/See with fresh eyes
- ►HOW Time-observation studies
- ►WHEN As many observations as you can, at least 3
- ►WHERE The clinic/ward you intend to focus interventions

▼Make targeted changes

▼Institution & Process-specific

The Objective of this Cohort

To locally adapt antimicrobial stewardship strategies and optimize patient care

Antibiotic Awareness Week
Nov 18-24

CDC Antibiotic Awareness Week ASB Playbook – November 18-24

Website Resources	1. Urine Culture Stewarship in Hospitalized Patients a. Addresses urine culture stewardship for patients with or without indwelling urinary catheters b. Links to additional resources for healthcare professionals 2. Catheter-associated urinary tract infections a. FAQs about CAUTI for patients b. Links to additional resources for healthcare professionals 3. Criteria for defining UTI events a. For patients with: symptomatic UTI, catheter associated UTI, asymptomatic bacteriuria	
Handouts	Patients	1. Improving Antibiotic Use 2. Do you need antibiotics? 3. What are antibiotic-resistant bacteria? 4. Do antibiotics have side effects?
	Healthcare Professionals	1. Avoid Treatment of Asymptomatic Bacteriuria 2. Be Antibiotics Aware: Protect your patient 3. Be Antibiotics Aware: At Hospital Discharge

Homework: Plan/Study

- **Set improvement goal**
- Predict what will happen
- Who, what, when, where, how
- Decide what data to gather

Process mapping

U.S. Antibiotic Awareness Week (USAAW)

U.S. Antibiotic Awareness Week is November 18-24, 2021.

BE ANTIBIOTICS AWARE
SMART USE, BEST CARE

USAAW is an annual observance that raises awareness of the threat of antibiotic resistance and the importance of appropriate antibiotic use.

Content from: werryworkforce.org/quality-improvement/pdsa

Dolly Parting Advice

On the importance of Process Mapping to guide meaningful interventions:

Sometimes if you jump into something too quickly, you can screw up something that might have been good….

Next Session:
Thursday December 16
Behavior Change &
Productive Conversations

19 January 2023

Productive Conversations in AMS: Garnering Physician Buy-In

Alyssa Castillo, MD
University of Colorado Hospital

Antimicrobial stewardship requires initiating some ***hard conversations!***

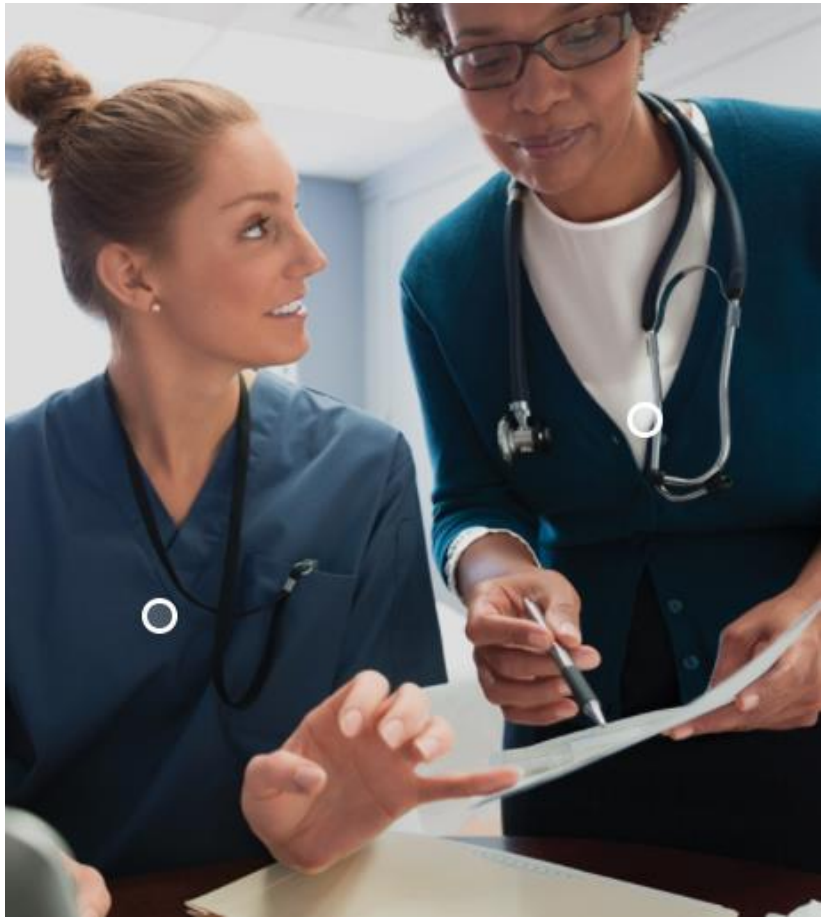
Giving unsolicited feedback is hard!

Especially when…

- values are not aligned.
- there is a difference in training and expertise.
- habits are deeply rooted.

What are qualities of a productive conversation?

- **Non-confrontational and non-judgmental**
- **Direct and to-the-point (we're all busy!)**
- **Focused teaching on the root of the problem (no "mansplaining"!)**



Fostering a Productive Conversation:

1. Advocacy
2. Inquiry
3. Listen
4. Teach

Fostering a Productive Conversation:

1. • Advocacy
2. • Inquiry
3. • Listen
4. • Teach

Borrowed from Medical Simulation Literature.
Goal = Psychological Safety!

Taylor, et al. “More Than One Way To Debrief: A Critical Review of Healthcare Simulation Debriefing Methods. *Simulation in Healthcare*. 2016; 11(3), 209-217.

Advocacy-Inquiry

1. • Advocacy
2. **Draw attention to a discrepancy**
   Stick to the facts
3. *“I noticed…”*
   “I saw…”
4.

Example Case: Advocacy

A 78yo patient with an indwelling foley is noted to have cloudy and malodorous urine. They have no fevers, leukocytosis, or abdominal/flank pain. You are the RN and are asked to collect a urinalysis and urine culture.

"I noticed this patient has a urine culture ordered, but they told me they have no urinary symptoms right now."

Advocacy-Inquiry:

1. • Advocacy
2. • Inquiry
3. **Probe this discrepancy with an open-ended question**
4. *“Can you help me understand…?”*
   “Can you share more about…?”
   “Can you teach me about…?”

Example Case: Inquiry

A 78yo patient with an indwelling foley is noted to have cloudy and malodorous urine. They have no fevers, leukocytosis, or abdominal/flank pain. You are the RN and are asked to collect a urinalysis and urine culture.

"I noticed this patient has a urine culture ordered, but they told me they have no urinary symptoms right now….

…Can you share more about what triggered this urine culture?"

Listen-Teach:

1. • Advocacy
2. • Inquiry
3. • Listen
4. **Understand what frameworks underlie their assumptions** – and identify how you can teach

Example Case: Listen

A 78yo patient with an indwelling foley is noted to have cloudy and malodorous urine. They have no fevers, leukocytosis, or abdominal/flank pain. You are the RN and are asked to collect a urinalysis and urine culture.

MD: "I think this is an early sign of urinary tract infection."

→ *Framework error: Foul smelling urine ≠ UTI*

MD: "It's a pre-op UA; the patient is going for pacemaker tomorrow."

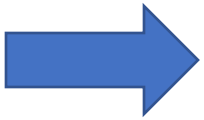
→ *Framework error: Non-urologic surgery does <u>not</u> require screening/treatment of ASB*

Listen-Teach:

1. • Advocacy
2. • Inquiry
3. • Listen
4. • Teach **Address the framework error**
   Share recommendations

Example Case: Teach

"I think this is an early sign of urinary tract infection."

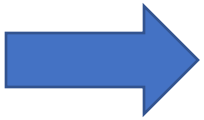


"I recently learned that foul-smelling urine is an unreliable indicator of infection in catheterized patients, and it more likely reflects their hydration status and urea concentration in the urine."

- *I'd be happy to share the article I found*
  [sharing resources]
- *Perhaps we can monitor the patient to see if they develop other UTI symptoms*
  [suggest an alternate path forward]

Example Case: Teach

"It's a pre-op UA; the patient is going for pacemaker tomorrow."



Oh, I didn't realize he was going to a procedure tomorrow! I recently reviewed the IDSA Guidelines and saw that pre-operative urine cultures to screen for ASB are recommended only for urologic surgeries.

- *I'd be happy to send you a link to the guideline* [share resources]
- *Even if this urine culture is positive, it would not need to be treated, so I'd suggest canceling it* [alternate plan]

Questions before we practice?

1. Advocacy
2. Inquiry
3. Listen
4. Teach

Practice Case

Case 1: Advocacy-Inquiry

A 92yo patient is brought to the ED with AMS. They have no fever, leukocytosis, abdominal pain, or dysuria. A urinalysis is notable only for +squamous cells and 2+ bacteria. Antibiotics are ordered.

Imagine: You are the pharmacist reviewing the order.

What would you say?

Case 1: Advocacy-Inquiry

A 92yo patient is brought to the ED with AMS. They have no fever, leukocytosis, abdominal pain, or dysuria. A urinalysis is notable only for +squamous cells and 2+ bacteria. Antibiotics are ordered.

You are the pharmacist reviewing the order.
What would you say?

"I notice this patient is ordered for antibiotics, but the notes say their only symptom is confusion. Can you share more with me about how the decision was made to start antibiotics?"

Case 1: Listen and Teach

A 92yo patient is brought to the ED with AMS. They have no fever, leukocytosis, abdominal pain, or dysuria. A urinalysis is notable only for +squamous cells and 2+ bacteria. Antibiotics are ordered.

"I am worried the patient's altered mental status is due to a UTI."

Where is the framework error?

Case 1: Listen and Teach

A 92yo patient is brought to the ED with AMS. They have no fever, leukocytosis, abdominal pain, or dysuria. A urinalysis is notable only for +squamous cells and 2+ bacteria. Antibiotics are ordered.

"I am worried the patient's altered mental status is due to a UTI."

- ***AMS in the elderly is rarely due to UTI if not associated with fever, WBC, or symptoms***
- ***It is safe to observe for 24-48h off of abx***
- ***There is a broad differential we don't want to miss!***

Case 1: Listen and Teach

A 92yo patient is brought to the ED with AMS. They have no fever, leukocytosis, abdominal pain, or dysuria. A urinalysis is notable only for +squamous cells and 2+ bacteria. Antibiotics are ordered.

"I think the patient's AMS is probably due to poly-pharmacy, but the positive bacteria in the urinalysis means they have a UTI."

Where is the framework error?

Case 1: Listen and Teach

A 92yo patient is brought to the ED with AMS. They have no fever, leukocytosis, abdominal pain, or dysuria. A urinalysis is notable only for +squamous cells and 2+ bacteria. Antibiotics are ordered.

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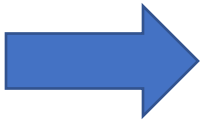


- ***A good urine specimen has less than 5 squames – this sample is likely contaminated.***
- ***Asymptomatic bacteriuria is common—especially in the elderly—and doesn't require treatment***

In summary:

1. Advocacy
2. Inquiry
3. Listen
4. Teach

Other ideas?

- Has anyone used tactics like the advocacy-inquiry method? If so, how did it go?
- Are there other strategies that have worked well for you in the past?

Thank you!

Alyssa Castillo, MD
University of Colorado
Alyssa.Castillo@ucdenver.edu

Practice Case 2

Case 2: Advocacy-Inquiry

A 45yo woman is seen in clinic for her annual “wellness” visit. She has a history of pyelonephritis but no urinary symptoms currently. A urine culture is sent and shows ESBL E coli.

The MD calls requesting an antibiotic recommendation. As the pharmacist, what would you say?

Case 2: Advocacy-Inquiry

A 45yo woman is seen in clinic for her annual "wellness" visit. She has a history of pyelonephritis but no urinary symptoms currently. A urine culture is sent and shows ESBL E coli.

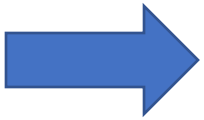
The MD calls requesting an antibiotic recommendation. As the pharmacist, what would you say?

"I saw noticed this patient has a drug-resistant E coli in their urine but no urinary symptoms. Can you help me understand what triggered this urine culture?"

Case 2: Listen-Teach

A 45yo woman is seen in clinic for her annual "wellness" visit. She has a history of pyelonephritis but no urinary symptoms currently. A urine culture is sent and shows ESBL E coli.

"I normally wouldn't treat it, but I got worried because it's so drug resistant I thought it was best to get rid of it."



- ***She is likely colonized***
- ***Any additional unnecessary antibiotics will likely make her future UTIs more difficult to treat!***

Case 2: Listen-Teach

A 45yo woman is seen in clinic for her annual "wellness" visit. She has a history of pyelonephritis but no urinary symptoms currently. A urine culture is sent and shows ESBL E coli.

"She doesn't have a UTI now, but I think treating this asymptomatic bacteriuria now will prevent her next episode of pyelonephritis."

- ***Treating ASB does not prevent future UTI or sepsis***