

Patient Education: Reducing Contamination Rates Among Urine Specimens In The Emergency Department

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PATIENT EDUCATION: REDUCING CONTAMINATION RATES AMONG URINE SPECIMENS IN THE EMERGENCY DEPARTMENT

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PURPOSE

In order to reduce the rate of contaminated urine specimens, Emergency Department (ED) patients at the 17th Street, Muhlenberg and Cedar Crest sites of the Lehigh Valley Health Network will be oriented to educational posters, located in all ED bathrooms. The posters will provide patients with detailed instructions on how to give a clean catch urine specimen.



PICO QUESTION

- **In Emergency Department patients at the 17th Street, Muhlenberg and Cedar Crest sites of the Lehigh Valley Health Network, how does the introduction of an instructional poster regarding clean catch urine collection, to which patients are oriented by staff, compared to a previously collected number of clean catch urine samples, prior to the introduction of the poster, result in the reduction of contaminated urine specimens?**
 - **P:** Emergency Department patients at 17th Street, Muhlenberg and Cedar Crest sites at LVHN
 - **I:** Instructional posters on how to give a clean catch sample
 - **C:** Contamination rates prior to the introduction of the instructional posters
 - **O:** Reduction in number of clean catch urine samples among Emergency Department patient population

EVIDENCE

- Search engines used
 - CINHAL, EBSCO, PEPID
- Key words used
 - Urine Cultures
 - Contamination
 - Emergency Department
 - Clean Catch
 - Patient Education

EVIDENCE

- Currently many interventions in the ED use written instruction. Weston and Cranton note that written materials and handouts should be considered instructional tools and recommend them as a supplement to teaching (Szpiro, Harrison, Van Der Kerkhof, & Lougheed, 2008).
- “Instructional materials can be provided to support the lecture. Although not as effective when used alone, written instruction can be effective” (Szpiro, Harrison, Van Der Kerkhof, & Lougheed, 2008).
- “A prospective study of comprehension of written discharge instructions by urban ED patients found that while the mean reading ability of the patients was the sixth grade level, printed discharge instructions were written at the 11th grade reading level” (Wei & Camargo, 2000).

CURRENT PRACTICE AT LVHN

- No specific policy for regarding patient education to obtain urine samples
- What is currently being done in the ED
 - Urine specimens must be obtained by clean catch or straight catheterization
 - Nurse and/or technical partner verbally instruct patients on how to obtain clean catch samples
- Noted inconsistency with verbal instruction about clean catch method

IMPLEMENTATION

1. Process Indicators

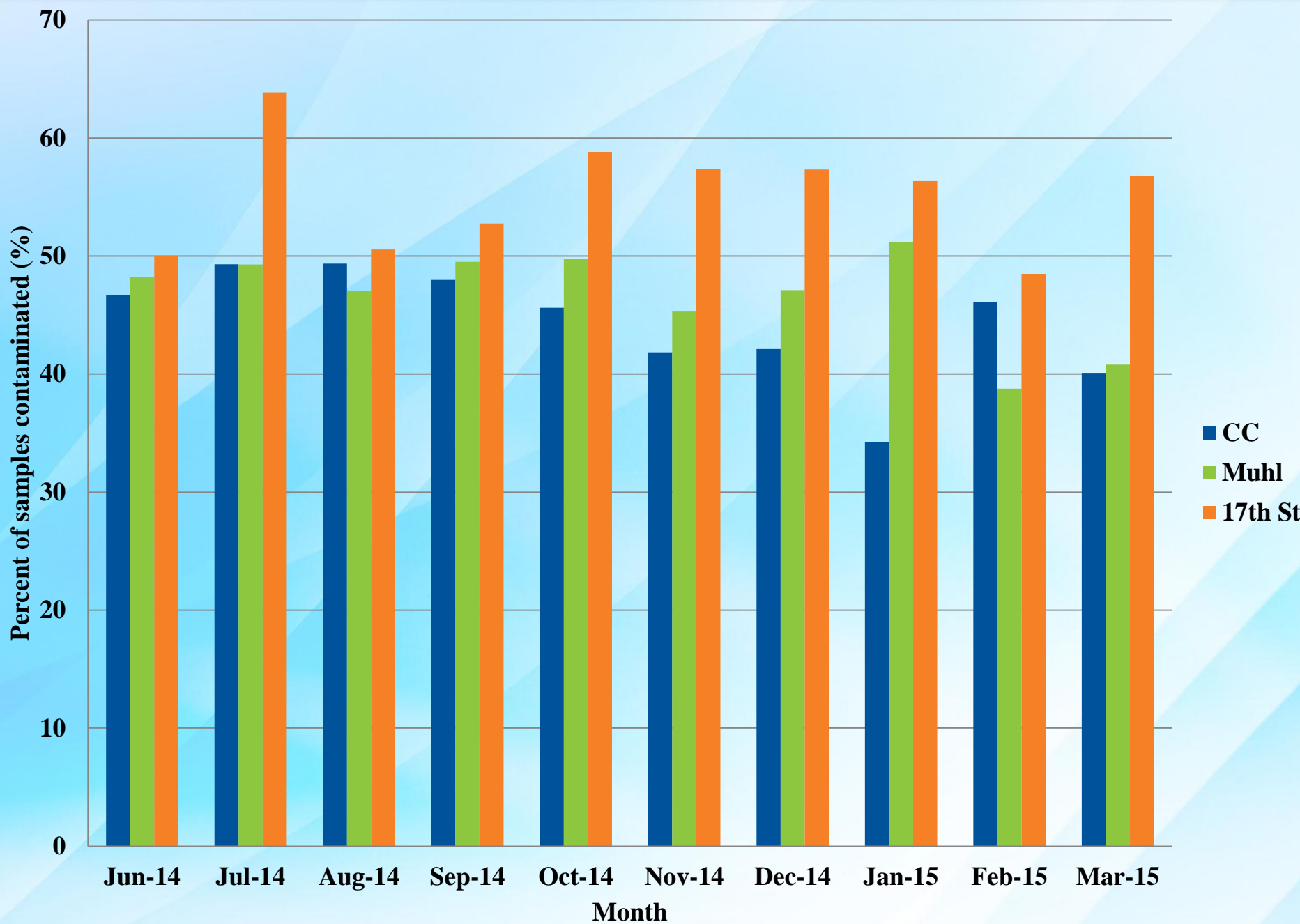
- Number of contaminated urine cultures in the ED

2. Outcomes

- Patient population educated on proper procedure
 - Patients demonstrate knowledge through teach back
- Staff support
 - Staff makes patient aware of poster
 - Staff answers any questions
- Decrease in urine contamination rates
 - Resulting in a decrease of unnecessary antibiotic therapy
 - Reduce hospital expenditures

3. Baseline Data

- Refer to next slide



IMPLEMENTATION

4. Design (EBP) Guideline(s)/Process

- Phase I
 - Determine which type of patient education is most effective
 - Develop way to educate patients on urine collection (posters)
- Phase II
 - Educate staff regarding posters
 - Place posters in every restroom in all three EDs
- Phase III
 - Determine whether or not posters reduce contamination rates

5. Implemented EBP on Pilot Units

- Implementation of pilot in all three emergency departments

6. Evaluation (Post data) of Process & Outcomes

- Compare contamination rates pre and post poster dissemination

7. Modifications to the Practice Guideline

- All nursing staff will be required to refer to posters while accompanying patients to restrooms for urine collection

8. Network Implementation

- Pertains to all units, as all units collect clean catch urine specimens

Please wash hands and read all directions before beginning

Female Urine Collection

- 1) Please do not touch the inside of lid or cup at any time while in the bathroom.
- 2) Clean the vagina from front to back with wipes using the provided wipes, one at a time.
- 3) Start to pee into the toilet.
- 4) Catch the middle of your pee in the cup.
- 5) Do not fill the cup more than $\frac{3}{4}$ full (see photo).
- 6) Put lid on cup tightly.
- 7) Bring cup back to your room.



Male Urine Collection

- 1) Please do not touch the inside of lid or cup at any time while in the bathroom.
- 2) Use the wipes provided to clean the tip of the penis, use only one wipe at a time. If you are not circumcised hold your foreskin back while cleaning the penis.
- 3) Start to pee into the toilet.
- 4) Catch the middle of your pee in the cup.
- 5) Do not fill the cup more than $\frac{3}{4}$ full (see photo).
- 6) Put the lid tightly on the cup.
- 7) Bring the cup back to your room.



Favor de lavarse las manos y leer todas la direcciones antes de comenzar

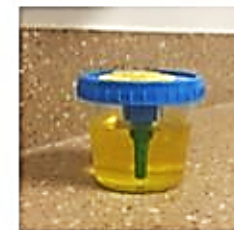
Colección de Orina para Mujeres

- 1) Favor de no tocar adentro de la tapa o vaso en ningún momento mientras esta en el baño.
- 2) Limpiar su vagina de adelante para atrás con las toallitas usando una toallita a la vez.
- 3) Comience a orinar en el inodoro.
- 4) Capturar la mitad de su orina en el vaso.
- 5) Favor de no llenar el vaso más de $\frac{3}{4}$ de su capacidad (ver foto).
- 6) Colocar la tapa firmemente en el vaso.
- 7) Llevar el vaso de regreso a su cuarto.

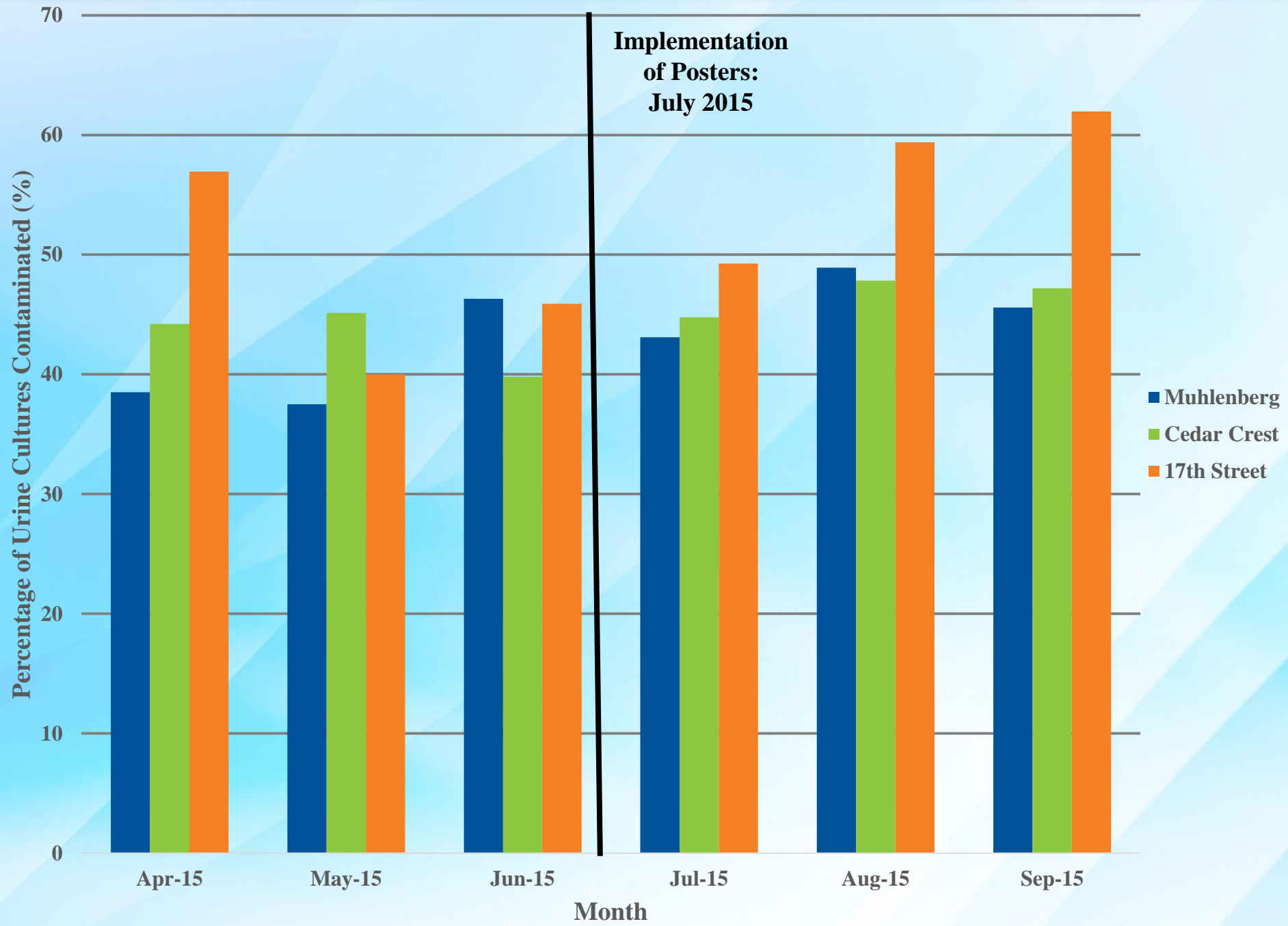


Colección de Orina para Hombres

- 1) Favor de no tocar adentro de la tapa o vaso en ningún momento mientras esta en el baño.
- 2) Use las toallitas para limpiar la punta de su pene, use solamente una toallita a la vez. Si usted no está circuncidado, sostenga el prepucio para atrás mientras limpia el pene.
- 3) Comience a orinar en el inodoro.
- 4) Capturar la mitad de su orina en el vaso.
- 5) Favor de no llenar el vaso más de $\frac{3}{4}$ de su capacidad (ver foto).
- 6) Colocar la tapa firmemente en el vaso.
- 7) Llevar el vaso de regreso a su cuarto.



RESULTS



LESSONS LEARNED

- Posters did not help decrease contamination rates... rates actually increased in months following dissemination
- However, rate increase cannot be directly attributed to posters
- Metrics to determine staff compliance regarding providing patients with verbal instructions in addition to orienting them to posters may be required
- Extra care should be taken to ensure education level appropriate language is used when writing non-English posters
- Problem may not be with specimen collection
 - Specimens currently held at bedside in ED until discharge/admission
 - Lab specimen handling/techniques

IMPLICATIONS FOR LVHN

- Teamwork to create new ideas to prevent sample contamination
- Call for new, interdisciplinary research within the network
- Network policy changes to how specimens are handled in ED and lab
- Continued network wide education on evidence based techniques



PRATICE CHANGE

- Posters will remain in ED restrooms to remind/educate patients regarding clean catch method
- Nursing staff will continue to reference posters
- Implementation of Urine Culture Hold order
 - Send culture down to lab with urinalysis to prevent extended time at bedside
 - Cultures may become contaminated if left at bedside
 - To be piloted in the ED and potentially implemented across the network if shown to decrease contamination rates

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Questions/Comments:

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Cedar Crest

17th Street

Muhlenberg

Health Centers