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2019

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Kerry Prendergast

*University of Vermont*, 97kprend@uvm.edu

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Prendergast, Kerry, "Intervention to Improve Staff Aherence to Transmission Based Precautions in a Long Term Care Nursing Facility" (2019). *College of Nursing and Health Sciences Clinical Nurse Leader (CNL) Project Publications*. 2.

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# Intervention to Improve Staff Adherence to Transmission Based Precautions in a Long Term Care Nursing Facility

Kerry Prendergast BS, RN

Advisor: Marcia Bosek DNSc, RN

Site Mentor: Elizabeth Derouchie MEd, RN

# Acknowledgments

- “I declare that there are no relationships, conditions, or circumstances that present a conflict of interest relevant to this presentation.”
- This project did not require funding.

# Introduction

- Infection prevention and control measures such as standard precautions and transmission based precautions are the foundation of best practices among healthcare workers in all healthcare settings, yet there continues to be a wide variability in their adoption by staff (Bouchoucha, 2017).
- Birchwood Terrace Healthcare, a local long term care nursing facility has struggled with staff compliance with Transmission Based Precaution utilization resulting in a “deficient practice” designation by the Division of Licensing & Protection (VT state regulatory agency) , due in part to difficulty interpreting vague regulatory guidelines in the LTC setting.

# Available Knowledge

- What do we know? TBP practices in LTC is a poorly described phenomenon in the literature, specifically regarding strategies for improving adherence rates.
- Research supports educational interventions as a method for increasing knowledge
- Knowledge gaps exist in the area of interest specific to LTC, however existing theories can be applied to intervention at local site.

# Rationale

- The Health Belief Model used as a conceptual framework for this project.
- Assumed nursing staff understand perceived risks for caring for persons requiring TBP and they have a baseline understanding of why TBP are utilized.
- The intervention was expected to work based on this framework's concept that a cue or trigger is needed for promoting engagement in health promoting behaviors.

# Purpose & Aims

- What is the best way to promote the use of TBP in the long term care setting?

## SPECIFIC AIMS

- Establish the facility policy is regarding Transmission Based Precautions and what the staffs' understanding of policy.
- Identify barriers to staff utilizing facility policy.
- Develop educational booklet that interprets facility policy for case based scenarios requiring transmission based precautions.

# Methods/Context

- Nursing staff (RN/LPN/LNA) on a 40 bed Rehabilitation Unit.
- Birchwood Terrace Healthcare, a for-profit skilled nursing facility in Burlington, offering rehab, long term care and dementia care.
- Long term care facilities are regulated by state and federal (CMS) agencies



# Intervention

- Needs Assessment
- Pre-Survey
- Educational Self-Study tutorial/case based
- Post survey
- Developed quick reference guide for staff

# Case study example

- Mr. Smith, an 86 year old male, has been admitted to Birchwood Terrace Healthcare for rehabilitation after a prolonged hospitalization following exploratory abdominal surgery. He has progressive dementia, is independently ambulatory and can be physically aggressive at times. During his hospital stay he contracted Clostridium Difficile (C. Diff) with isolation precautions implemented which included being moved into a private room and being assigned a one-on-one attendant to ensure isolation was maintained. Mr. Smith remains symptomatic of C. Diff infection upon his admission to BTHC. He experiences occasional stool incontinence which is managed with adult briefs. Mr. Smith is in a private room per policy and has been given the designation of needing Transmission Based Precautions to be used for his care. His daughter is in to visit for the first time and finds her father sitting in the common day room, watching television with a few other patients. She has questions regarding his care, specific to the facility's policies regarding the Transmission Based Precautions for his C. Diff infection. Below is the conversation between Mr. Smith's daughter and the Charge Nurse:

“Why is my father not in his room? He was kept in his room the entire time he was at the hospital.”

“Then why was he kept in his room at the hospital? They had to have someone sit with him at all times. It really made his behaviors escalate, and was just so hard on him. I do not understand why it's different here?”

RN: “Although preferable, patient isolation is not required of your dad currently. He is only occasionally incontinent of stool, and when he is, we are managing this with adult briefs. As long as his stool is contained, he can leave his room.”

RN: “Skilled nursing facilities have a different set of regulations that we must adhere to. One of them being to not physically restrain our patients. If we isolated your father in his room at all times, we would be restraining his freedom of movement. We are also regulated to make the patient experience more ‘home-like’ Hospitals have different regulations they must follow. As long as we can keep your father clean and contained, he can safely be outside of his room.”

<u>Type of TBP</u>	<u>Ok to leave room?</u>	<u>Actions for patient</u>	<u>Actions for staff</u>
Contact  * (MRSA colonized patient)	Yes	Wash hands before leaving room with soap and water or alcohol based hand sanitizer and is wearing clean clothing.	TBP's in patient room when physical contact/bodily fluid exposure is expected. Handy hygiene before & after entering room. Gloves only when in room with no expectation for contact (ex: bringing meal tray or medicine). No TBP outside of room unless bodily fluid exposure is expected.  Encourage visitors to wear TBP's when physical contact with patient or their belongings in room is expected.

# Study of the Intervention

- Facility needs discussed with the Director of Nursing and her nursing management team prior to intervention and once data was obtained.
- Participating staff were asked to evaluate interventional process once completed.

Pre/post survey data used to determine outcome of educational self-study tutorial intervention.

# Measures

- Survey format and self-study tutorial were chosen for studying processes and outcomes of this intervention for ease of use for the staff. Staff were given time to complete all aspects of project independently, confidentially and without fear of being observed. This proved successful in completion response and was an efficient use of time for staff.
- Pre and Post survey responses were matched using unique identifiers. Staff who completed educational self-study intervention also signed an attendance sheet to account for accuracy.

# Analysis

- Descriptive statistics used to draw inferences from data.
- Statistical analysis completed with assistance from Department of Mathematics & Statistics Information Technology Specialist Alan Howard.

# Ethical Considerations

- IRB reviewed prior to project initiation, project deemed IRB exempt.
- No personal health information was associated with survey results or educational information provided.
- Surveys were anonymous.
- Staff decision to participate did not influence work assignments or performance evaluations.
- Staff participation was voluntary



# Results

## Steps of Intervention

Step 1

- Initial Needs Assessment Questionnaire administered
- Developed pre-survey questions based on data gathered

Step 2

- Pre-survey began. Staff had 7 days to participate. Data gathered, educational intervention developed.

Step 3

- Educational Intervention implemented over 10 days.

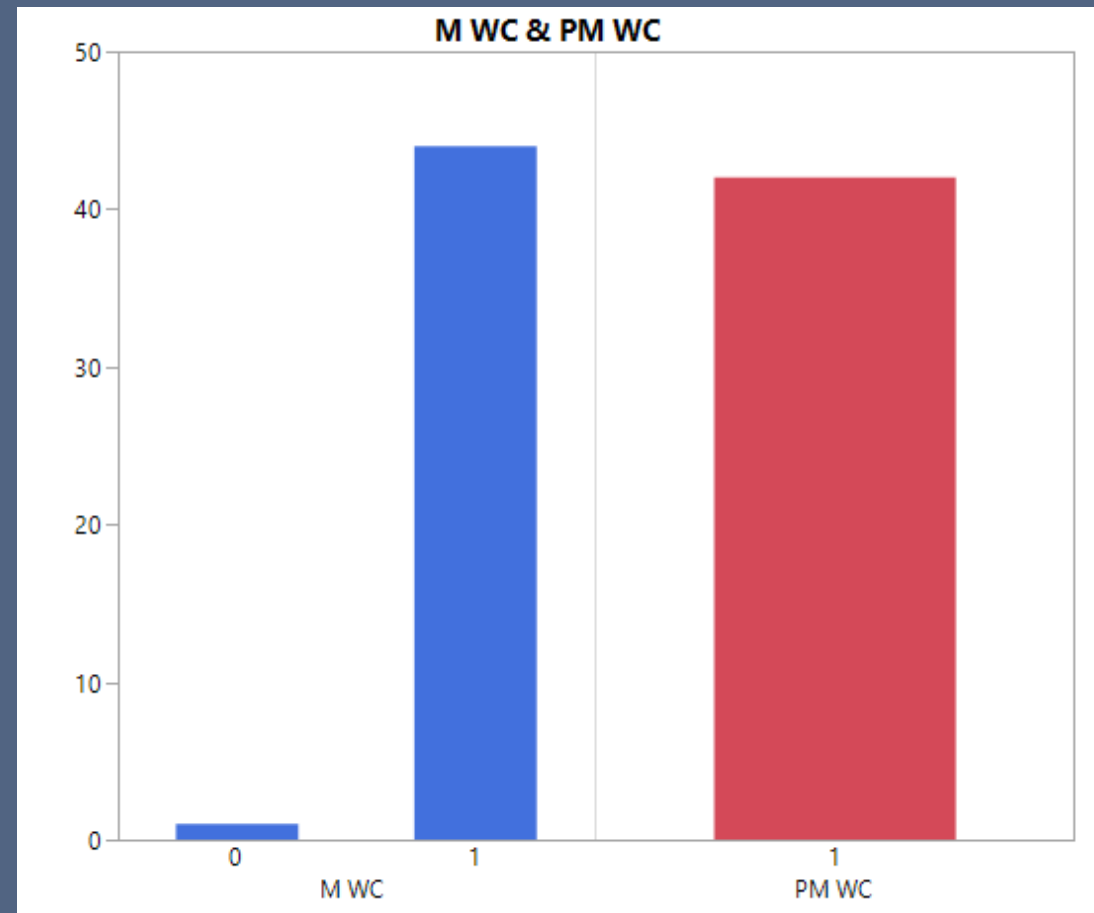
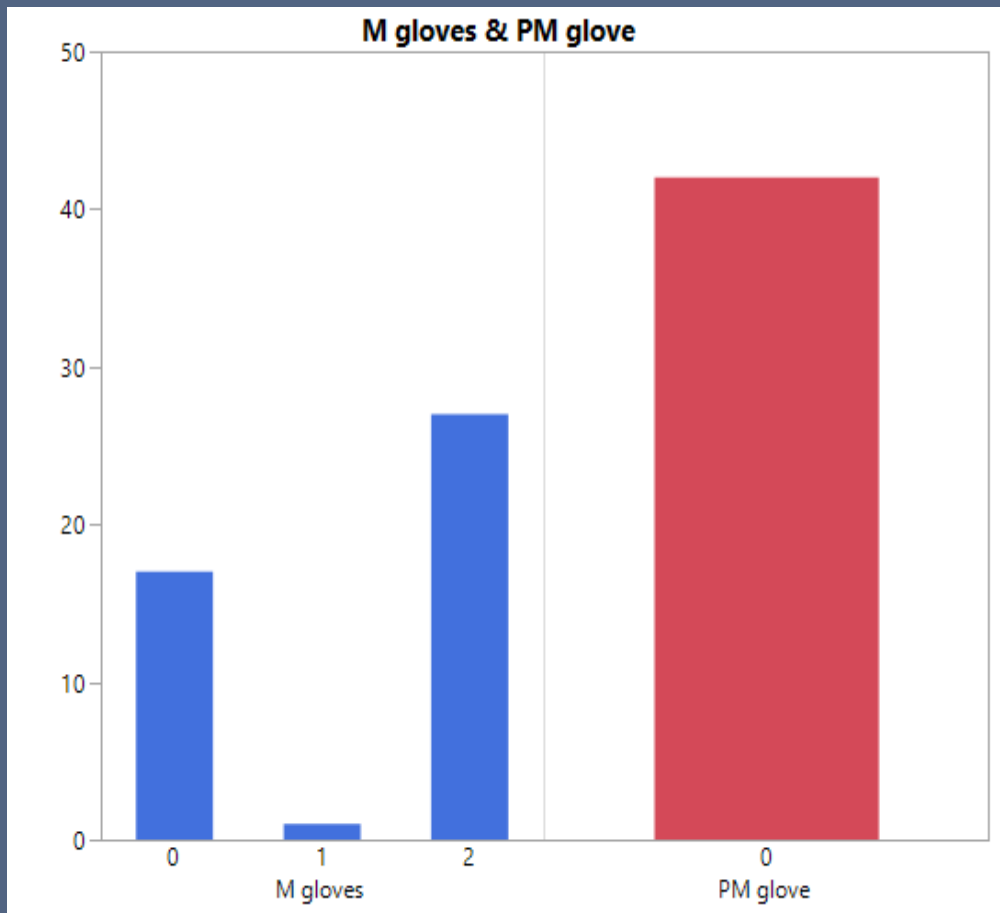
Step 4

- Post-survey initiated. Staff allowed 7 days to participate. Additional questions added regarding evaluation of tool and increase in knowledge.

# Results

- Initial needs assessment questionnaire distributed to nursing staff on rehab unit regarding knowledge of facility policy and use of transmission based precautions. 40 out of a possible 56 (71.4%) staff members responded to the survey.
- Forty- five out of 56 (80.36%) nursing staff completed the pre-survey with 45% LNAs, 55% RN/LPNs.
- Forty -three (76.79%) completed the educational booklet tool. Forty- two (75%) completed the post-education survey.
- TBP knowledge related to MRSA improved 31.15%, from 68.85% to 100%.
- TBP knowledge related to C. Diff improved 7.85%, from 92.15% to 100%
- Droplet TBP knowledge increased 51%, from 46.6% to 97.6%.
- Nursing staff identified interpreting regulatory guidance and policy into practice, inconsistent communication, and staff shortages as barriers to compliance with TBP.

# Results continued...

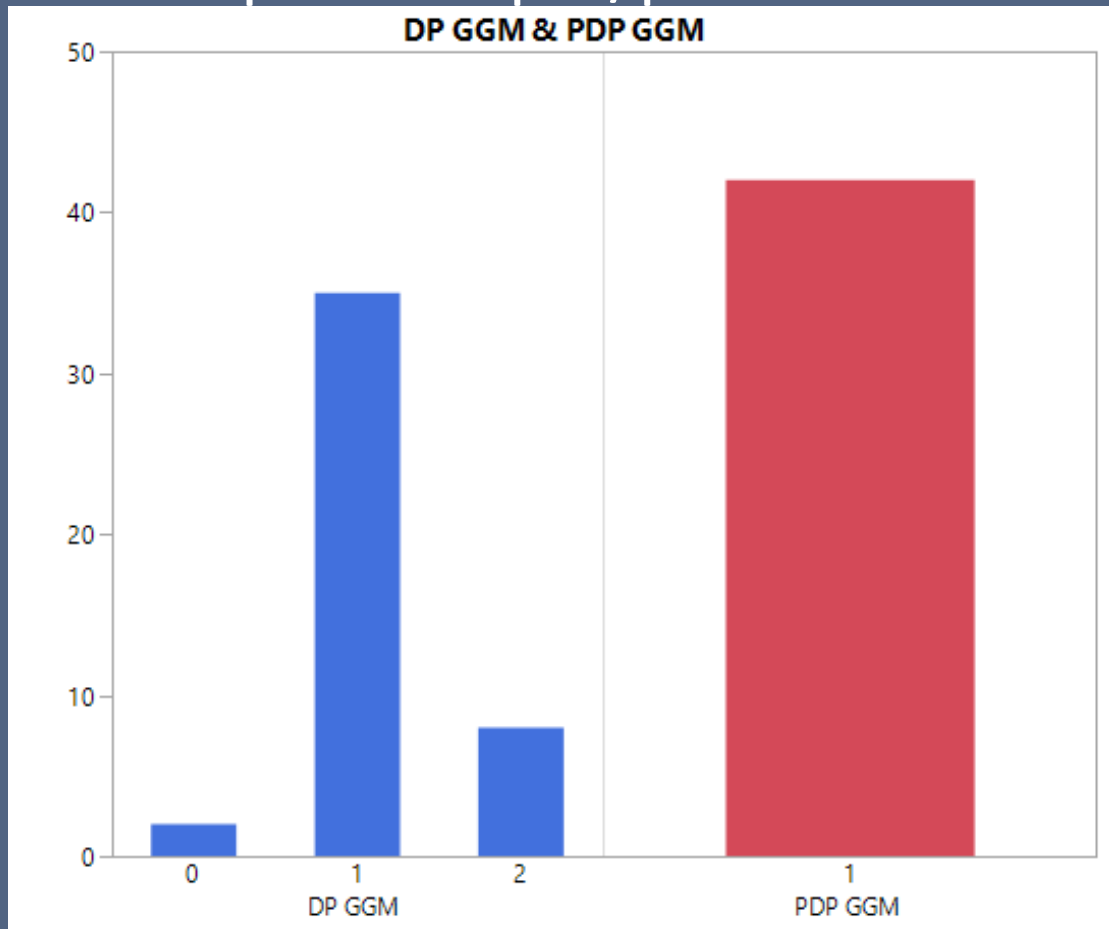


Gloving/Gowning with MRSA scenario pre-post education survey

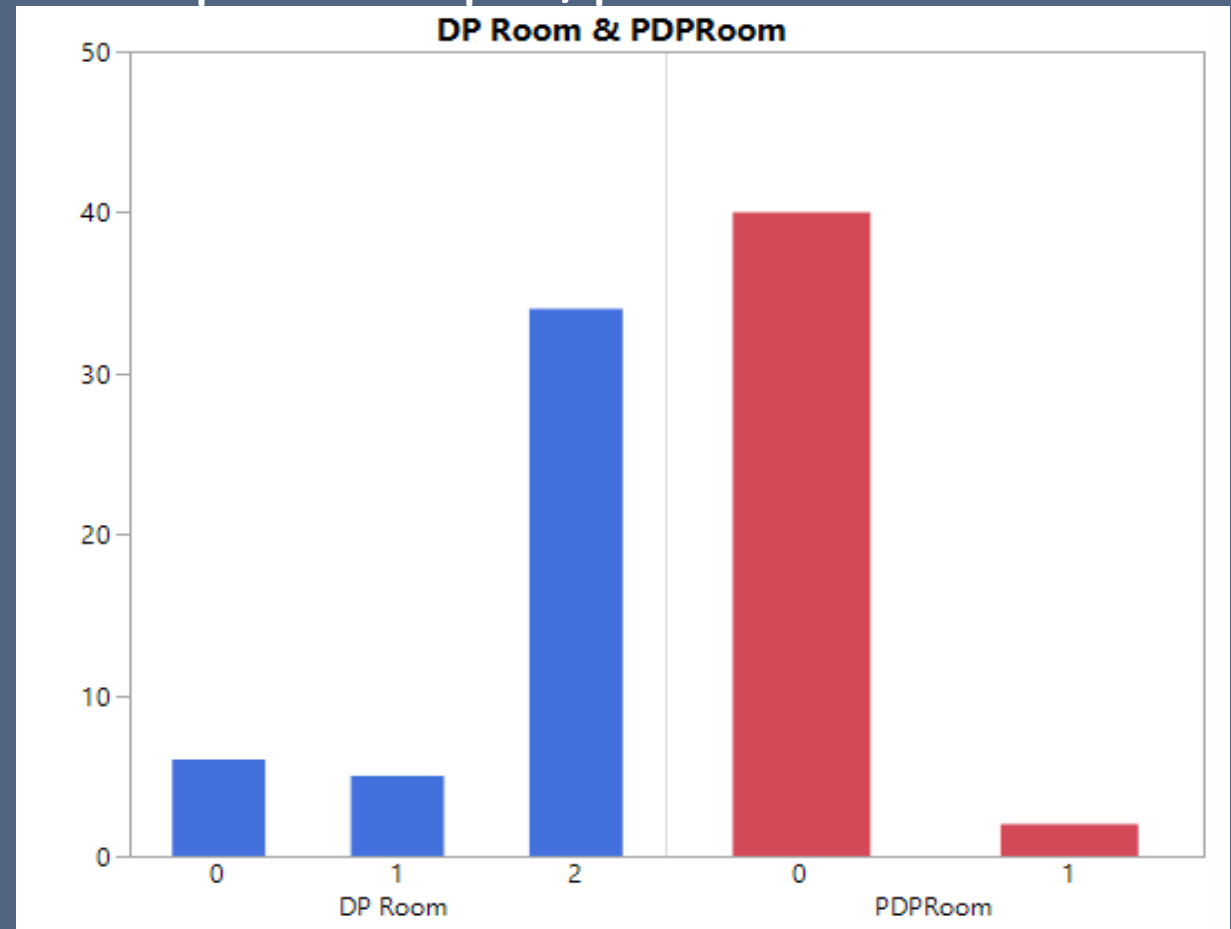
0=No, 1=yes, 2=do not know

# Results continued....

- Droplet TBP pre/post



- Droplet TBP pre/post



# Discussion

- Key findings - Staff knowledge of TBPs and how to interpret them for bedside practice improved overall through use of self-study educational intervention. This project intervention spoke directly to the specific aims, in that it determined staff's information gaps, surveyed for increased knowledge post survey and developed a reference tool for future use. The self-study educational intervention was chosen based on the idea that participants be responsible for their own learning, encouraging staff buy in of the education versus being "told" how to perform.
- **Strengths-** the high response rate gathered from both surveys and intervention.
- Responses were matched for strength of data
- Project was not overly cumbersome or time consuming for staff which allowed for ease of participation.

# Interpretation

- Positive correlation noted between educational intervention and increased TBP knowledge.
- Project results can be compared with several findings from studies completed in the acute care/hospital setting, lacking LTC knowledge.
- Impact on staff, patients and facility beneficial
- C. Diff data outcomes were unexpected- staff is experienced in this care

# Limitations

- Limited sample and setting
- Unable to determine how much time staff spent on educational tutorial.
- Limited existing evidence to support maintaining this learning experience.

# Conclusions

- Project was successful in meeting its specific aims of determining the staff's knowledge of TBPs, and barriers to use.
- Sustainability for this effort could occur through continued offering of the self-study tutorial method for new staff, and per facility policy on the microsystem level.
- The implications for practice and further study in this field have the potential to improve not only the knowledge base but overall adherence to TBP adherence in long term care, in turn improving infection prevention.



# Next Steps

- Generalizable to other LTC organizations
- CNL in LTC could provided further education to carry work forward at microsystem level
- Staff were extremely receptive to this project intervention as an effective learning tool (self-directed nature & case based scenarios)

# References

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