

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

**Positive deviance and hand hygiene
of nurses in a Quebec hospital:
What can we learn from the best?**

Josiane Létourneau, RN, PhD
Faculté des sciences infirmières
Université de Montréal

Hosted by Ramona Rodrigues
McGill University, Montreal

www.webbertraining.com

January 30, 2020

Objectives of the lecture

- 1) Present a PhD study on nurses' hand hygiene using a positive deviance approach
- 2) Present and discuss the results of the study
- 3) Discuss how positive deviance approach could be applied in healthcare settings

2

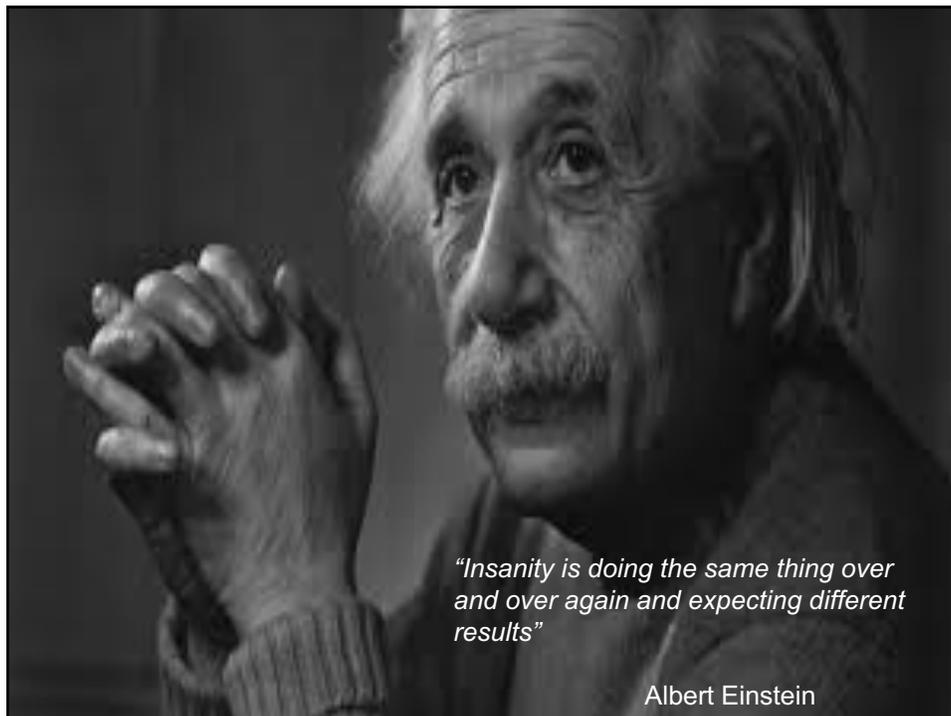
Hosted by Ramona Rodrigues, McGill University, Montreal
www.webbertraining.com

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Background

- Healthcare-associated infections are a major concern for patient safety and represent significant costs for patients, families and society (OMS, 2011)
 - In Canada: > 200 000 each year - 8 000 deaths (Butler-Jones, 2013)
 - In Quebec: Approximately 10% of hospitalized patients (MSSS, 2018)
- Hand hygiene is recognized as effective (Gould et al., 2018) but shows low adherence rate among healthcare workers: 38.7% (Luangasanatip et al., 2015)
- Despite many interventions implemented to improve hand hygiene adherence: Not the expected results (Gould & Drey, 2013)
- One behavior change approach looks promising: the positive deviance (Marsh et al, 2004)

3



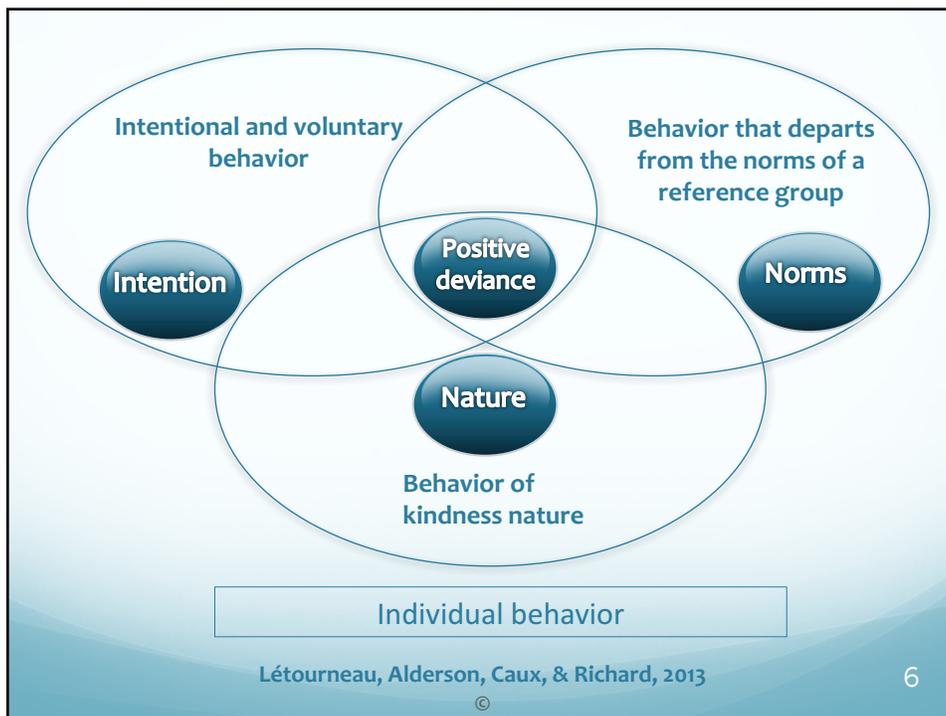
Hosted by Ramona Rodrigues, McGill University, Montreal
www.webbertraining.com

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

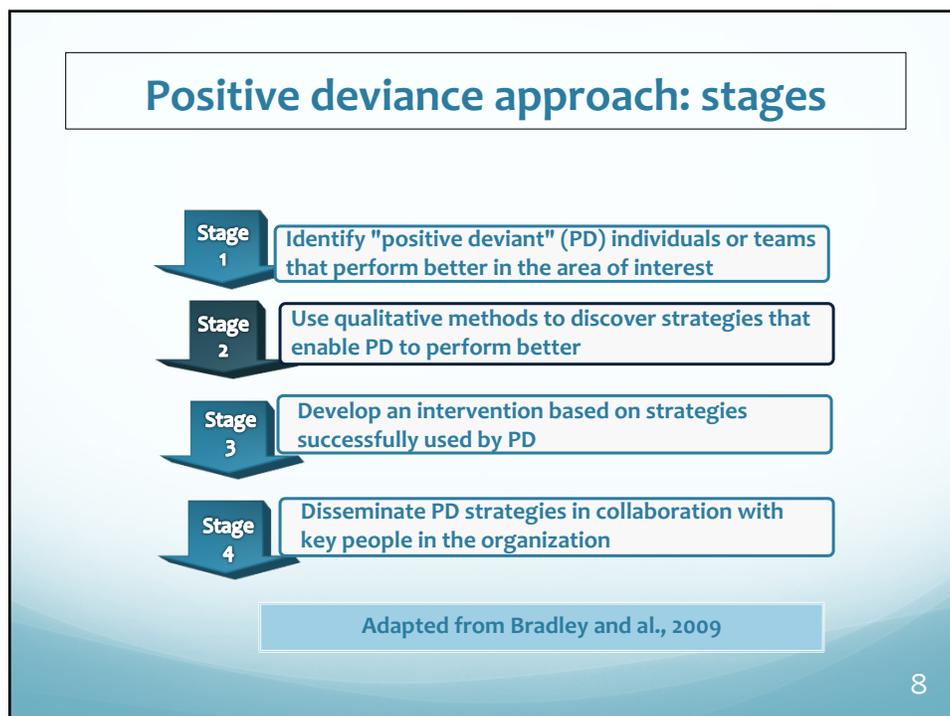
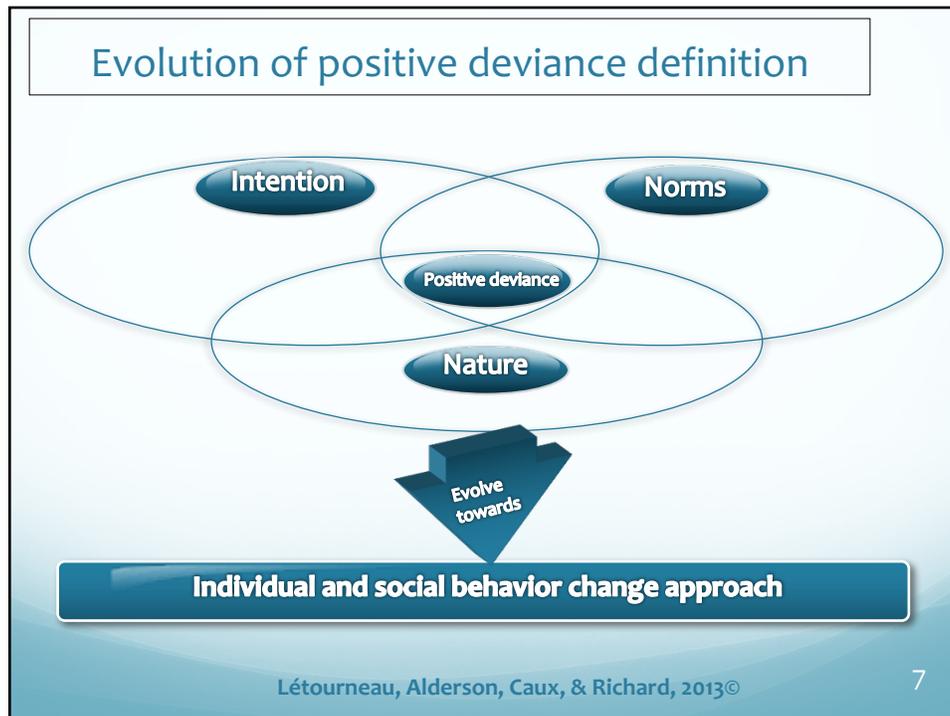
Background

- Positive deviance is defined as:
 - An intentional behavior that departs from the norms of a reference group in honorable ways (Spreitzer and Sonenshein, 2004)
 - A behavioral change approach based on the premise that in most organizations, there are "positive deviant" individuals who are able to solve problems better than their colleagues with exactly the same resources (Marsh and al, 2004)

5



Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass



Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Purpose of the PhD study

Explore, from the perspective of positive deviance approach, the nurses' clinical practices related to hand hygiene and the factors that influence them in a Quebec hospital

9

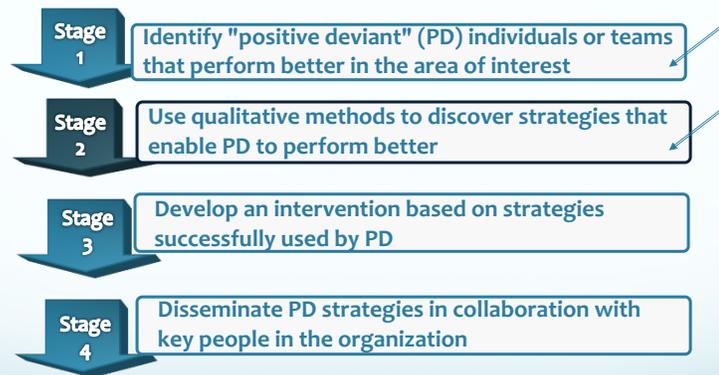
Ethics

- Study's research protocol was approved by the hospital's ethics committee
- Nursing management offered support by facilitating connections with the infection prevention team and head nurses of the selected units
- Study was presented to the 2 selected care teams
- Nurses were given a week to read and sign the consent form

10

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Positive deviance approach: stages



Adapted from Bradley and al., 2009

11

Positive deviants identification

- Based on the results of hand hygiene audits carried out in a Montreal University Hospital during the year preceding the start of the study.
- Two care units where hand hygiene adherence rates among nurses were higher (70%) in comparison to other units of the same Hospital (35%)
- Participants:
 - Nurses involved in direct patient care on selected units
 - Agreed to participate in the study

12

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Qualitative research method

- Two **comparative focused ethnographies**: observing two groups of nurses in their daily lives, taking into account institutional culture and all sources of contextual information
- Contribution of our study: exploring the practice of hand hygiene in two organizational contexts
 - Criticism of focused ethnographies: often looking at only one context
 - Multi-site ethnographies allow nuance of data
- Additional challenges but factors may differ depending on the context.
 - Could enhance knowledge by showing the importance of taking context of healthcare into account - otherwise implementing recommendations can be problematic

13

Data collection

- ❖ Systematic observations
- ❖ Individual interviews
- ❖ Informal conversations
- ❖ Field notes
- ❖ Documents available on hand hygiene

14

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Sociodemographic data of participants

Health unit	Medical-surgery (15)	Palliative care (6)
Sex	14 women 1 men	5 women 1 men
Mean age (y)	39	48
Degree	Master's degree in nursing: n=1 Bachelor's degree in nursing: n=10 College diploma in nursing: n=4	Master's degree in nursing: n=1 Bachelor's degree in nursing: n=1 College diploma in nursing: n=4
Mean no. of years (y)	9	14

15

Observation periods

Medical-surgery unit	Palliative care unit
January 26 to March 30, 2015 (60 hours)	September 10 to October 12, 2015 (25 hours)
<ul style="list-style-type: none"> • Periods of about 4 hours at a time / 2-3 times a week • Days / evenings / weekends • "Shadowing" technique with 14 participants 	

16

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Individual interviews

Medical-surgery unit	Palliative care unit
March 22 - May 15, 2015	October 1 - 19, 2015
<ul style="list-style-type: none">○ 18 interviews○ After the observation periods○ Duration: 45 to 60 minutes○ Recorded with the participants' agreement○ During working hours (meals)○ Except two that took place outside hospital setting	

17

Data processing and analysis

- Interview data was transcribed in verbatim and the results from the observations were recorded in writing
- Content analysis was conducted using the Patton method (2002, 2015)
- Data was coded using the QDA Miner software in three categories:
 - Clinical Practices related to Hand Hygiene
 - Moments when hand hygiene was performed
 - Factors influencing participants' adherence to hand hygiene

18

What are the nurses' clinical practices regarding hand hygiene?

19

Clinical practices

Use of hydroalcoholic solutions:

- Mainly before and after contact with patient and / or their environment
- The introduction of solutions has been as a major advance in infection prevention (Alp et al., 2011; Gould et Drey, 2013)

 Wash with water and soap: facilitated by the presence of sinks (Atif et al., 2019; ASPC, 2012)

- Soiled hands
- Before the meal "bitter taste of solution"
- After contact with biological fluids
- Patient in isolation
- Sticky film sensation caused by solutions

20

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Clinical practices

- Some participants use hydroalcoholic solutions (HAS) with a patient presenting diarrhea associated with *Clostridium difficile*
 - Lack of knowledge or misconceptions about adopting HAS as the preferred method of hand hygiene (Agence de la santé publique du Canada, 2012).
- Some participants wear gloves for all patient care
 - Several factors can explain the unjustified wearing of gloves during patient care and it is necessary to understand the reasons why in order to improve this practice (Boscart, 2012).

21

What are the factors that influence nurses in their practice of hand hygiene?

Individual factors
Organizational factors
Environmental factors
Sociocultural factors

22

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Individual factors

○ Knowledge

- Knowledge of hand hygiene practice and its role in protecting patients to ensure safety and quality of care (Caris et al., 2017)
- Lack of knowledge and training in hand hygiene: barriers to hand hygiene (Atif et al., 2019)
- Understanding the needs and characteristics of each group of health professionals in order to personalize training and ask for their opinions on the content of this training (Gould et al., 2018)

23

Individual factors

○ Professional awareness

- Participants practice hand hygiene before touching the patient and/or their environment as much as after;
- They are very aware of their duty as nurses in protecting patients from infection.
- **Several examples from the literature review show lower rates of nurses' hand hygiene adherence before contact with a patient than after** (Harne-Britner et al., 2011; Woodard et al., 2019; Kowitt, et al., 2013; dos Santos et al., 2013)

○ Personal protection

- While hand hygiene is important to protect patients, it is also important to protect yourself (Atif, 2019)
- Educating nurses about maintaining their health seems essential and personal protection is a motivating factor with regard to the practice of hand hygiene (Boscart et al., 2012; Smiddy et al., 2015)

24

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Organizational factors

- **Mobilizing leadership of the head nurse on the medical-surgical unit**
 - Favorable impact on improving hand hygiene adherence (Huis et al., 2013)
 - Positive factor in supporting a team in an improvement process (Wendt et al., 2009)
- **Collaborative practice within the two care teams**
 - Working together towards a common goal (Bernard et al., 2018; Caris et al., 2017)
- **Hand hygiene adherence monitoring: feedback**
 - Participants appreciate receiving feedback and being involved in the discussions towards improvement
 - Feedback to healthcare workers promotes hand hygiene practice (Doronina et al., 2017)

25

Environmental factors

- **Accessibility and availability of hydroalcoholic solutions:**
 - Implantation facilitates adherence to hand hygiene (Doronina, et al., 2017; Gould, et al., 2018)
 - Dispensers must be available and accessible (Kirk et al., 2016; Atif et al., 2019) and must always be filled (Midturi et al., 2015)
- **Accessibility and availability of sinks:**
 - On the medical-surgical unit: adding sinks in the corridor facilitates adherence to hand hygiene
 - Problems when there are no sinks available or there is limited access to them (Atif et al., 2019; Kowitt et al., 2013; Song et al., 2013)
 - Even more complex when patients have *Clostridium difficile* associated diarrhea (Zellmer et al., 2015)

26

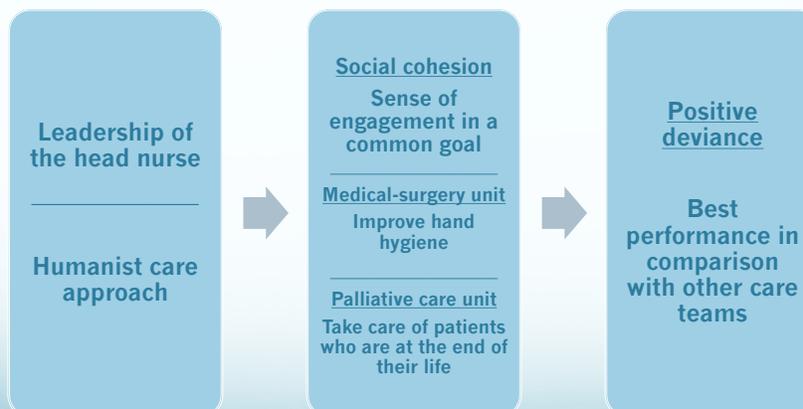
Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Sociocultural factors

- Our results show that a certain **power to act, collaboration** and **social cohesion** within the two care teams promote positive deviance - better performance hand hygiene.
“A process which enables each individual in a group to develop a sense of engagement in a common enterprise” (Kwok et al., 2017, p. 226)
- **However**, what motivates participants differs depending on the context of care
 - Medical-surgery unit: participants share this desire to improve hand hygiene under the **leadership of the head nurse**
 - Palliative care unit: participants share a **care practice based on humanism** so that patients are comfortable and they do not suffer

27

Positive deviance process related to hand hygiene



28

What is the applicability of positive deviance approach in healthcare settings?

29

Applicability of positive deviance approach

- **Innovative contribution** of our study: having explored and identified factors in order to explain the best performance with regards to hand hygiene practice of two care teams.
- Helped to understand why healthcare teams adhere to hand hygiene better than their colleagues in other units



Main interest of positive deviance approach

30

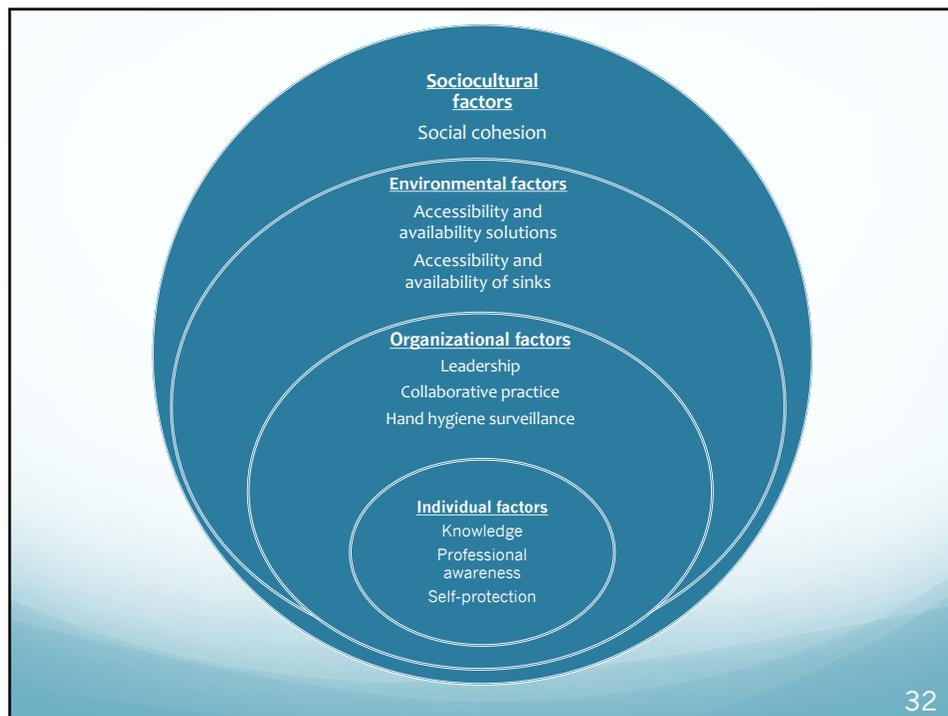
Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Implications of the results

Clinical practices

- Positive deviance approach could be useful to raise awareness of the issues surrounding the practice of hand hygiene by studying healthcare teams that are more efficient in order to understand the reasons "why"
- Use the results of nurses' hand hygiene audits or observations
- Organize discussion meetings with those teams to understand why they are better
- Possible solutions could emerge from these discussions and allow intervention with other healthcare teams, if the factors identified are applicable to others.

31



32

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Implications of the results

- **Management and Administration**
 - Training and support for head nurses
 - Distributors of hydroalcoholic solutions
 - Presence of sinks
 - Feedback following audits
 - Sense of commitment in a common project

33

Implications of the results

Research

- Innovative and interesting research method:
 - Study more efficient healthcare teams
 - Could contribute to improve knowledge by understanding why those teams are better and by learning from them
- Using the positive deviance approach in research could enhance the role of nurses and provide positive feedback.

34

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Implications of the results

Politics

- Numerous health reforms in Quebec
 - Nurses have been overwhelmingly affected: staff cuts, job loss, increase nurse-patient ratios
 - Overwork, high patient-to-nurse ratio, budget constraints and lack of time to practice hand hygiene
- Priority of the Minister of Health and Social Services of Quebec
 - Improve the quality and safety of patient care
 - Achieve 80% hand hygiene adherence rate by 2020

35

Limitations of the study

- Impact of the researcher:
 - Participants
 - Data collection
 - Data analysis / interpretation
- Not having been able to explore clinical practices of nurses working in other types of care units in order to know the culture of these teams
- Not having been able to study care teams which are not very efficient with regard to hand hygiene practices
- Not having been able to spend more time on each of the care units

36

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass

Conclusion

- Continue efforts to improve nurses' hand hygiene adherence rates in order to protect patients from infection.
- Increase and continue mobilization at the clinical, organizational, social and political levels to support nurses so that they can practice hand hygiene and thus protect patients while protecting their health.

37

*Learn from the people
Plan with the people
Begin with what they have
Build on what they know
Of the best leaders
When the task is
accomplished
The people all remark
We have done it ourselves*

Lao-Tzu's Tao Te Ching
(6th Century BCE)



38

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital

Dr. Josiane Létourneau, Université de Montréal

A Webber Training Teleclass

References

Agence de la santé publique du Canada (2012). *Pratiques de base et précautions additionnelles visant à prévenir la transmission des infections dans les milieux de soins*. Ottawa: Centre de lutte contre les maladies transmissibles et les infections.

Alp, E., Ozturk, A., Guven, M., Celik, I., Doganay, M. et Voss, A. (2011). Importance of structured training programs and good role models in hand hygiene in developing countries. *J Infect Public Health*, 4(2), 80-90. doi: 10.1016/j.jiph.2011.03.001

Atif, S., Lorcy, A. et Dubé, E. (2019). Healthcare workers' attitudes toward hand hygiene practices: Results of a multicentre qualitative study in Quebec. *Canadian Journal of Infection Control*, 34(1).

Bernard, L., Biron, A., Lavigne, G., Frechette, J., Bernard, A., Mitchell, J. et Lavoie-Tremblay, M. (2018). An exploratory study of safety culture, biological risk management and hand hygiene of healthcare professionals. *J Adv Nurs*, 74(4), 827-837. doi: 10.1111/jan.13500

Boscart, V. M., Fernie, G. R., Lee, J. H. et Jaglal, S. B. (2012). Using psychological theory to inform methods to optimize the implementation of a hand hygiene intervention. *Implement Sci*, 7, 77. doi: 10.1186/1748-5908-7-77

Bradley, E. H., Curry, L. A., Ramanadhan, S., Rowe, L., Nembhard, I. M. et Krumholz, H. M. (2009). Research in action: using positive deviance to improve quality of health care. *Implement Sci*, 4, 25. doi: 10.1186/1748-5908-4-25

Butler-Jones, D. (2013). *The Chief Public Health Officer's Report on the State of Public Health in Canada, 2013: Infectious Disease-The Never-ending Threat*. Public Health Agency of Canada.

Caris, M. G., Kamphuis, P. G. A., Dekker, M., de Bruijne, M. C., van Agtmael, M. A. et Vandenbroucke-Grauls, C. (2017). Patient Safety Culture and the Ability to Improve: A Proof of Concept Study on Hand Hygiene. *Infect Control Hosp Epidemiol*, 38(11), 1277-1283. doi: 10.1017/ice.2017.209

39

References

Doronina, O., Jones, D., Martello, M., Biron, A. et Lavoie-Tremblay, M. (2017). A systematic review on the effectiveness of interventions to improve hand hygiene compliance of nurses in the hospital setting. *Journal of Nursing Scholarship*, 49(2), 143-152.

dos Santos, R. P., Konkewicz, L. R., Nagel, F. M., Lisboa, T., Xavier, R. C., Jacoby, T., . . . Kuchenbecker, R. (2013). Change in hand hygiene compliance after a multimodal intervention and seasonality variation. *American Journal of Infection Control*, 41(11), 1012-1016. doi: <http://dx.doi.org/10.1016/j.ajic.2013.05.020>

Gould, D. et Drey, N. (2013). Types of interventions used to improve hand hygiene compliance and prevent healthcare associated infection. *Journal of Infection Prevention*, 14(3), 88-93. doi: 10.1177/1757177413482608

Gould, D., Moralejo, D., Drey, N., Chudleigh, J. et Taljaard, M. (2018). Interventions to improve hand hygiene compliance in patient care: Reflections on three systematic reviews for the Cochrane Collaboration 2007-2017. *J Infect Prev*, 19(3), 108-113. doi: 10.1177/1757177417751285

Harne-Britner, S., Allen, M. et Fowler, K. A. (2011). Improving hand hygiene adherence among nursing staff. *J Nurs Care Qual*, 26(1), 39-48. doi: 10.1097/NCQ.0b013e3181e0575f

Huis, A., Schoonhoven, L., Grol, R., Donders, R., Hulscher, M. et van Achterberg, T. (2013). Impact of a team and leaders directed strategy to improve nurses' adherence to hand hygiene guidelines: a cluster randomised trial. *Int J Nurs Stud*, 50(4), 464-474. doi: 10.1016/j.ijnurstu.2012.08.004

Kirk, J., Kendall, A., Marx, J. F., Pincock, T., Young, E., Hughes, J. M. et Landers, T. (2016). Point of care hand hygiene—where's the rub? A survey of US and Canadian health care workers' knowledge, attitudes, and practices. *Am J Infect Control*, 44(10), 1095-1101. doi: 10.1016/j.ajic.2016.03.005

40

Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital

Dr. Josiane Létourneau, Université de Montréal

A Webber Training Teleclass

References

- Kowitz, B., Jefferson, J. et Mermel, L. A. (2013). Factors Associated with Hand Hygiene Compliance at a Tertiary Care Teaching Hospital. *Infect Control Hosp Epidemiol*, 34(11), 1146-1152. doi: 10.1086/673465
- Kwok, Y. L., Harris, P. et McLaws, M. L. (2017). Social cohesion: The missing factor required for a successful hand hygiene program. *Am J Infect Control*, 45(3), 222-227. doi: 10.1016/j.ajic.2016.10.021
- Létourneau, J., Alderson, M., Caux, C. et Richard, L. (2013). [Positive deviance: concept analysis using the evolutionary approach of Rodgers]. *Rech Soins Infirm*(113), 19-33.
- Luangsanatip, N., Hongsuwan, M., Limmathurotsakul, D., Lubell, Y., Lee, A. S., Harbarth, S., . . . Cooper, B. S. (2015). Comparative efficacy of interventions to promote hand hygiene in hospital: systematic review and network meta-analysis. *BMJ*, 351, h3728. doi: 10.1136/bmj.h3728
- Marsh, D. R., Schroeder, D. G., Dearden, K. A., Sternin, J. et Sternin, M. (2004). The power of positive deviance. *BMJ*, 329(7475), 1177-1179. doi: 10.1136/bmj.329.7475.1177
- Midturi, J. K., Narasimhan, A., Barnett, T., Sodek, J., Schreier, W., Barnett, J., . . . Arroliga, A. C. (2015). A successful multifaceted strategy to improve hand hygiene compliance rates. *Am J Infect Control*, 43(5), 533-536. doi: 10.1016/j.ajic.2015.01.024
- Ministère de la santé et des services sociaux (2018). *Taux de conformité aux pratiques exemplaires d'hygiène des mains dans les établissements 2017-2018*. Québec. Repéré à http://www.msss.gouv.qc.ca/ministere/acces_info/decisions-et-documents-transmis-dans-le-cadre-d-une-demande-deacces/
- Organisation mondiale de la Santé (2011). *Report on the burden Endemic Health Care-Associated Infection Worldwide*. Genève, Suisse

41

References

- Song, X., Stockwell, D. C., Floyd, T., Short, B. L. et Singh, N. (2013). Improving hand hygiene compliance in health care workers: Strategies and impact on patient outcomes. *American Journal of Infection Control*, 41(10), e101-e105. doi: <http://dx.doi.org/10.1016/j.ajic.2013.01.031>
- Smiddy, M., O'Connell, R. et Creedon, S. (2015). Systematic qualitative literature review of health care workers' compliance with hand hygiene guidelines. *Am J Infect Control*, 43(3), 269-274. doi: 10.1016/j.ajic.2014.11.007
- Spreitzer, G. et Sonenshein, S. (2004). Toward the Construct Definition of Positive Deviance. *American Behavioral Scientist*, 47(6), 828-847.
- Woodard, J. A., Leekha, S., Jackson, S. S. et Thom, K. A. (2019). Beyond entry and exit: Hand hygiene at the bedside. *American Journal of Infection Control*, 47(5), 487-491. doi: <https://doi.org/10.1016/j.ajic.2018.10.026>
- Zellmer, C., Blakney, R., Van Hoof, S. et Safdar, N. (2015). Impact of sink location on hand hygiene compliance for *Clostridium difficile* infection. *Am J Infect Control*, 43(4), 387-389. doi: 10.1016/j.ajic.2014.12.016
- Wendt, H., Euwema, M. C. et Van Emmerik, I. H. (2009). Leadership and team cohesiveness across cultures. *The Leadership Quarterly*, 20(3), 358-370.

42

**Positive Deviance and Hand Hygiene of Nurses in a Quebec Hospital
Dr. Josiane Létourneau, Université de Montréal
A Webber Training Teleclass**

www.webbertraining.com/schedulep1.php	
February 13, 2020	MALNUTRITION RISK AND HEALTHCARE INFECTION – A MUST DO Speaker: Dr. Fidelma Fitzpatrick , Royal College of Surgeons in Ireland <i>(FREE European Teleclass ... Denver Russell Memorial Teleclass Lecture)</i>
February 18, 2020	ANTIMICROBIAL RESISTANCE – A GLOBAL ONE HEALTH CHALLENGE Speaker: Prof. Séamus Fanning , University College Dublin, Ireland <i>(South Pacific Teleclass)</i>
February 19, 2020	DEVELOPING AND IMPLEMENTING A PERSONAL PROTECTIVE EQUIPMENT TRAINING PROGRAMME FOR HIGH-CONSEQUENCE INFECTIOUS DISEASE PREPAREDNESS Speaker: Ruth Barratt , University of Sydney, Faculty of Medicine
February 27, 2020	ANTIBIOTIC STEWARDSHIP IN NURSING HOMES Speaker: Prof. Patricia Stone , Columbia University, School of Nursing <i>(European Teleclass)</i>
March 3, 2020	THE EFFICACY OF INFECTION PREVENTION AND CONTROL COMMITTEES IN AFRICAN SETTINGS Speaker: Eltony Mugomeri , Africa University, Zimbabwe <i>(FREE Teleclass)</i>
March 12, 2020	THE BUZZ AROUND MOSQUITOES AND MOSQUITO-BORNE DISEASES Speaker: Dr. Marcia Anderson , Environmental Protection Agency <i>(FREE Teleclass)</i>

Thanks to Teleclass Education
PATRON SPONSORS



Hosted by Ramona Rodrigues, McGill University, Montreal
www.webbertraining.com