

Master of Public Health Field Experience Report

HAND HYGIENE CAMPAIGN AT LAFENE HEALTH CENTER

by

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MASTER OF PUBLIC HEALTH

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Summary

The importance of proper hand hygiene in preventing disease is not a new concept in the field of medicine. Since the 1840's when a physician, Ignaz Semmelweis, required his students clean their hands after performing autopsies, it has been recognized that cleaning hands can reduce mortality rates in hospitals.¹ However, even though the importance of hand hygiene may be common knowledge, hand hygiene rates among medical professionals, including in both human and veterinary medicine, remain low.^{2,3} This has led to increased efforts in researching the best ways to conduct hand hygiene campaigns among healthcare professionals to promote good hand hygiene among this group of people. The field experience described in this report took place at a human healthcare center, Lafene Health Center in Manhattan, Kansas. The field experience involved researching best practices for creating an effective hand hygiene campaign in a human healthcare setting and then executing a hand hygiene campaign at Lafene Health Center. A survey was distributed at the end of the campaign to gauge the perceived effectiveness of the campaign among healthcare professionals at Lafene Health Center.

Subject Keywords: hand hygiene, healthcare center, hand hygiene campaign, health promotion, hand sanitizer, health communication

Table of Contents

List of Figures	2
Chapter 1 - Field Experience Scope of Work	3
Chapter 2 - Learning Objectives	4
Activities Performed.....	4
Hand Hygiene Campaign Literature Review.....	4
Hand Hygiene Campaign at Lafene Health Center	6
Products Developed	10
References	16

List of Figures

Figure 2.1 First poster displayed for 2 weeks at Lafene Health Center.	11
Figure 2.2 Second poster displayed for 2 weeks at Lafene Health Center following the first poster.	12
Figure 2.3 Third poster displayed for 2 weeks at Lafene Health Center following the second poster.	13
Figure 2.4 Results of survey gauging perceived campaign effectiveness sent to healthcare professionals at Lafene	15

Chapter 1 - Field Experience Scope of Work

The primary focus of this field experience was to create a unique hand hygiene campaign targeting clinical and non-clinical staff at Lafene Health Center. The hand hygiene campaign was created based on what current research shows are the best ways to motivate healthcare providers to clean their hands in the healthcare setting.

The field experience took place at Lafene Health Center, which provides outpatient care to students who attend Kansas State University in Manhattan, Kansas. Lafene Health Center is also an important resource for health education, promotion, and wellness among students on the Kansas State University campus. Specifically, the field experience was guided by Julie Gibbs, MPH, Director of Health Promotion Department at Lafene Health Center. The mission of the Health Promotion Department at Lafene is to provide leadership in health maintenance (wellness) promotion and disease/illness prevention for the Kansas State University students, staff, faculty, and surrounding community members.

Chapter 2 - Learning Objectives

- 1) Learn how to conduct a thorough review of the current literature on hand hygiene practices and hand hygiene campaigns
- 2) Learn how to effectively motivate healthcare providers and staff to improve their hand hygiene throughout their daily work by implementing a short-term hand hygiene campaign
- 3) Identify the potential zoonotic pathogens that are commonly encountered in a healthcare setting
- 4) Learn the best ways to prevent infection with zoonotic pathogens contracted in a healthcare setting

List the learning objectives as outlined on the Field Experience Agreement.

Activities Performed

The activities performed as part of the field experience included reviewing the literature on hand hygiene campaigns conducted in healthcare settings with emphasis on the components of a hand hygiene campaign that make it most effective in motivating healthcare professionals to improve their hand hygiene habits. The field experience also included creating a hand hygiene campaign targeting clinical and non-clinical staff at Lafene Health Center based on the findings of the review of the literature. Although the original intent was to have a multifaceted hand hygiene campaign that included motivational posters and a video or group discussion, issues arose with scheduling a meeting for all healthcare professionals in which to show the video or hold discussion within the constraints of the field experience allotted time, and so the campaign consisted of novel posters displayed around Lafene Health Center. A survey was also distributed at the end of the field experience to determine the perceived effectiveness of the campaign by the healthcare professionals at Lafene.

Hand Hygiene Campaign Literature Review

Research in human healthcare settings suggests that multiple continuous interventions are superior to single interventions in terms of having profound and long-

lasting effects on hand hygiene compliance rates.⁴ One systematic review found that any structured educational intervention aimed at improving hand hygiene compliance will improve hand hygiene rates especially if combined with other components including cues, reminders, surveillance, and feedback.⁴ This same study also found that performance feedback and using internal teams to deliver interventions were keys to successful hand hygiene campaigns.⁴ A systematic review of 21 hand hygiene studies found similar results, citing that multifaceted campaigns that combine education campaigns with written material, reminders, and continued feedback of performance can have sustained positive impact on hand hygiene rates that may last for years.⁵ Most notably, a Swiss study described a hand hygiene campaign that led to a sustained increase in hand hygiene compliance and reduction in hospital-acquired infection (HAI) rates at one institution.² The hand hygiene campaign described in this study included novel posters promoting hand hygiene that were created by staff from different wards of the hospital. The posters included amusing pictures with simple messages, emphasized using bedside, alcohol-based hand sanitizer, and encouraged healthcare professionals to carry bottles of hand sanitizer in their lab coats. Results of yearly observations of hand hygiene behavior were included in newsletters to the healthcare professionals and showed sustained improvements in hand hygiene rates over the 3 years that observations took place.²

One recent systematic review of 41 hand-hygiene studies found that interventions that target determinants such as social influence and attitude will have a significantly greater effect on improving hand hygiene rates when compared to interventions that target a combination of other determinants including knowledge (informing people that not cleaning their hands allows the spread of pathogens), awareness (making people more aware of the need to clean their hands), action control (using cues or reminders, like posters, to prompt people to clean their hands), and facilities (providing materials, like sanitizer, to make it easier for people to clean their hands).⁶ Another recent systematic review also showed that incorporating cultural and societal influences into intervention strategies may be most effective.⁷ This review cited interventions with strong support of the campaign by leaders in the organization and campaigns that involved all types of healthcare workers in the hospital, had the most

sustainable and significant improvements to overall hand hygiene rates.⁷ A recent cluster randomized control trial was conducted that compared one part of the nursing wards of 3 hospitals, where nurses received multimodal hand hygiene campaigns including education, reminders, feedback, and optimizing of facilities, to the other part which also received the multimodal hand hygiene campaign and in addition were given a team and leaders directed strategy aimed at improving social influence within teams and improving leadership of the ward leader.⁸ Experiencing feedback about their hand hygiene performance was positively correlated with short-term changes in nurse hand hygiene behavior ($p < 0.05$); however, long-term positive changes in hand hygiene behavior were more strongly correlated to social influence (i.e., addressing each other on undesirable hand hygiene behavior $p < 0.01$), and leadership (i.e., ward manager holds team members accountable for hand hygiene performance $p < 0.01$).⁸

Overall, this review of the current literature on effective hand hygiene campaign strategies found that campaigns with multiple components including educational seminars, reminders, and continued feedback on hand hygiene habits are more effective in improving hand hygiene rates. This review also found that targeting larger organizational influences, such as social influences and leadership support, are vital to having a long-lasting improvement in hand hygiene compliance at an organization. Involving the target population in the creation and maintenance of the hand hygiene campaign also appears to be instrumental in campaign success.

Hand Hygiene Campaign at Lafene Health Center

The hand hygiene campaign at Lafene Health Center was then created with the intent to incorporate as many of the components found in the review as possible. However, it was acknowledged that the relatively short time frame of the campaign (6 weeks) may be a limiting factor for the overall impact of the campaign.

The original plan was to implement a multifaceted campaign that involved different healthcare professionals who worked at Lafene Health Center. The campaign would include a novel video showing Lafene healthcare professionals engaged in good hand hygiene behavior such as cleaning their hands before and after patient care, properly cleaning their stethoscopes, and having proper attire to reduce fomite carriage

of bacteria (for example, refraining from wearing loose scarves, excessive jewelry, or acrylic nails where bacteria could be carried from patient to patient). The campaign would also involve a brief presentation with group discussions on how to improve hand hygiene compliance at Lafene Health Center that would be held at monthly meetings of all healthcare professionals. The third part of the campaign would include 3 novel posters changed out every 2 weeks showing Lafene healthcare professionals using good hand hygiene practices and cleaning their stethoscopes. These posters were to be displayed in all exam rooms at Lafene throughout the study period. Elements of the campaign were developed using results of the literature review described above and involving input from Lafene administrators and staff in the Health Promotion department of Lafene. It was also decided that at the completion of the campaign a survey would be distributed to all healthcare professionals at Lafene to gauge their perceived effectiveness of the campaign on influencing their hand hygiene habits.

Unfortunately, challenges soon arose to completing the first two parts of the planned campaign. Although the campaign took place mostly during summer months, many healthcare professionals (specifically doctors and nurses) were too busy to be a part of a video and other logistics for filming such as editing the video and how to show it to large number of people at Lafene were also considerable challenges. Planning a meeting of all healthcare professionals also proved challenging because nurses and doctors met at different times on a monthly basis and these meetings were already booked with other speakers. Finding another time when all healthcare professionals could meet also proved difficult with different schedules and most healthcare professionals too busy seeing clients throughout the day. Lunch or dinner meetings were suggested but interest was thought to be too low to include the majority of targeted group for the hand hygiene campaign. Due to these issues, it was decided that a campaign including rotating posters of healthcare professionals engaged in good hand hygiene practices would be used to promote hand hygiene at Lafene Health Center.

Pictures of healthcare professionals engaged in good hand hygiene behaviors were taken over several days throughout the field experience. Pictures included healthcare professionals using hand sanitizer before and after patient contact, cleaning their hands with soap and water in exam room sinks, and properly cleaning their

stethoscopes. Using these pictures, novel motivational posters were created using PowerPoint. All posters included the phrase “Keeping Our Hands Clean Is What We Do at Lafene!” and the sign for Lafene Health Center that is seen upon entering the building. Posters were designed by the Master of Public Health student (Ellen Heinrich) and were edited based on comments from Lafene administrators and the Health Promotion department staff. The first poster displayed for 2 weeks is shown in **Figure 2.1**. The second poster displayed for 2 weeks after showing the first poster is shown in **Figure 2.2**. The final poster displayed for 2 weeks after showing the second poster is shown in **Figure 2.3**. All posters were originally designed to be displayed in all exam rooms at Lafene. However, the administration did not want to have more signs displayed in exam rooms so they were instead placed in all restrooms frequented by healthcare professionals. At the time of the campaign Lafene exam rooms were being remodeled, which also would have made it difficult to show posters in exam rooms as originally planned. Following the display of the last poster (**Figure 2.3**) a survey was sent out via email to all healthcare professionals working at Lafene. The questions and results of the survey are shown in **Figure 2.4**.

Overall, it appears that healthcare professionals at Lafene Health Center believe that they already do a good job of cleaning their hands before and after each patient, even though numerous hand hygiene studies would show this is likely untrue. However, it may be that healthcare professionals at Lafene are better at cleaning their hands than most healthcare professionals nationally. This belief may also influence their perceived effectiveness of the campaign; only 37% said the posters increased their awareness of hand hygiene compared to 63% who said their awareness was unchanged. However, overall effectiveness of the campaign was rated very effective or effective by 62% of respondents and 33% found the campaign to be somewhat effective. This may be because 53% of respondents said the posters increased how often they clean their stethoscopes. Respondents also noted that parts of the campaign that were most effective included seeing people they knew in the campaign, and having “eye-catching posters”. Respondents seemed overall to not like the location of the posters, with several respondents noting location of posters as being the least effective part of the campaign.

Although there were many set-backs in this field experience, overall the experience was valuable in demonstrating the real-life challenges that come with creating an effective hand hygiene campaign and getting healthcare professionals and administrators involved in a hand hygiene campaign in a typical healthcare setting.

The greatest challenge that may not have been well recognized initially was getting administrators and other leaders at Lafene excited about the hand hygiene campaign. The human healthcare system appears to be over-saturated with hand hygiene promotion that is apparently ineffective and also serves to callus healthcare professionals to new hand hygiene initiatives. There is also a sense that healthcare professionals feel they do not need hand hygiene campaigns. As the survey showed here, the majority believed they already were doing a great job of cleaning their hands. It may be that demonstrations using glow gel before and after contact with a patient or other such shocking visual examples may be needed to prove to healthcare professionals that they are actually not doing a good job of cleaning their hands.

Another challenge that surfaced in this campaign is how to reach healthcare professionals in the midst of their busy daily schedules. In the case of this field experience planning things farther in advance may have been a key step in allowing a meeting with the majority of healthcare professionals and possibly getting them to be involved in a video. This may be an even greater challenge in large inter-city hospitals where the number of cases per clinician is much higher than at Lafene. A short and simple message may be the most effective way to get busy healthcare professionals to be better at cleaning their hands.

The hand hygiene campaign in this field experience did appear to be somewhat effective to the target population. It is most interesting to note that respondents noticed the posters because there were pictures of their fellow healthcare professionals on the posters engaging in good hand hygiene behaviors. This reflects evidence from the literature that hand hygiene campaigns are more effective when social influence and culture are targeted in the campaign. It is also important to note that location of posters is an important factor to consider in a hand hygiene campaign. It may be possible that the effectiveness of the campaign would have been greater if the posters had been displayed in all exam rooms instead of the bathrooms.

This field experience was a true learning experience that showed the challenges and opportunities that abound in the area of health communication, particularly involving how to motivate healthcare professionals to have better hand hygiene habits throughout daily patient care. There are many resources in the literature that demonstrate effective hand hygiene campaigns that have been conducted in a variety of settings within the human healthcare community. There are also many challenges that this field experience showed that may not be apparent from reading the literature. By both examining the literature for best ways to improve hand hygiene among healthcare professionals and implementing a hand hygiene campaign in a healthcare setting, this field experience has allowed a better understanding of what is expected of a person with a Master of Public Health degree who is employed to carry out a health promotion campaign.

Products Developed

The posters used in the hand hygiene campaign are presented in **Figures 2.1, 2.2, 2.3**. The results of the survey distributed to the healthcare professionals at Lafene following the campaign are presented in **Figure 2.4**.



Figure 2.1 First poster displayed for 2 weeks at Lafene Health Center.



Figure 2.2 Second poster displayed for 2 weeks at Lafene Health Center following the first poster.



Figure 2.3 Third poster displayed for 2 weeks at Lafene Health Center following the second poster.

1. Do you clean your hands BEFORE touching a patient?				
#	Answer		Response	%
1	Always		16	84%
2	Most of the time		3	16%
3	Sometimes		0	0%
4	Never		0	0%
	Total		19	100%
2. Do you clean your hands AFTER touching a patient?				
#	Answer		Response	%
1	Always		16	84%
2	Most of the time		3	16%
3	Sometimes		0	0%
4	Never		0	0%
3. How often do you believe your fellow healthcare professionals clean their hands BEFORE touching a patient?				
#	Answer		Response	%
1	Always		8	42%
2	Most of the time		10	53%
3	Sometimes		1	5%
4	Never		0	0%
4. How often do you believe your fellow healthcare professionals clean their hands AFTER touching a patient?				
#	Answer		Response	%
1	Always		11	58%
2	Most of the time		5	26%
3	Sometimes		3	16%
4	Never		0	0%
5. How often do you clean your stethoscope?				
#	Answer		Response	%
1	a. Before & after using it to examine a patient		7	41%
2	b. Once or twice daily		7	41%
3	c. Once or twice a week		1	6%
4	d. A few times a month		0	0%
5	e. I don't remember the last time I cleaned my stethoscope		0	0%
6	Other		2	12%
Other				
depends on the circumstances				
I use the clinics stethoscope				
6. How have the hand hygiene posters influenced how often you clean your stethoscope?				
#	Answer		Response	%
1	Increased		10	53%
2	Unchanged		9	47%
3	Decreased		0	0%

7. How have the hand hygiene posters influenced your awareness of hand hygiene?				
#	Answer		Response	%
1	Increased		7	37%
2	Unchanged		12	63%
3	Decreased		0	0%
8. What parts of the hand hygiene campaign were MOST effective at reminding you to clean your hands?				
Responses				
not the campaign - just hand hygiene in general				
The pictures				
I thought it was good to see people I knew in the campaign				
posters				
posters				
not needed				
I liked the posters, was a nice overall reminder!				
eye catching posters				
No reminding needed				
posters in bathrooms				
posters				
didn't notice any of it				
9. What parts of the hand hygiene campaign were LEAST effective at reminding you to clean your hands?				
Responses				
nothing				
NA				
I only saw one poster and it was in a bathroom I don't normally use				
locations of the posters				
email reminders				
not needed				
I just saw posters.				
posters only in bathrooms, not in patient rooms				
not aware of any other part apart from posters				
there wasn't				
didn't notice any of it				
10. How would you rate the overall effectiveness of the hand hygiene campaign?				
#	Answer		Response	%
1	Very effective		1	6%
2	Effective		10	56%
3	Somewhat Effective		6	33%
4	Ineffective		1	6%
	Total		18	100%

Figure 2.4 Results of survey gauging perceived campaign effectiveness sent to healthcare professionals at Lafene

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