**Increasing PPE Compliance using McKinsey’s 7S Framework**

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Personal Protective Equipment (PPE) is vital to staff and patient safety on in-patient units. PPE protects staff from their patients’ infections and inhibits the spread of disease (Mahmood et al., 2020). Despite the proven benefits of wearing PPE, many staff do not adhere to policies regarding the use of PPE in patient care. As much as 95% of staff did not comply with PPE policies during the pandemic (Alah et al., 2021). In light of COVID-19, Windsor Regional Hospital (WRH) has increased PPE requirements for staff: gowns and gloves are required with every patient encounter, eye protection must always be worn, and the use of masks, specifically N95s, is further enforced on units (WRH, 2022c). If organizations fail to address PPE non-compliance, yet further impose regulations, compliance fatigue will increase, leading to higher rates of infection. This will put strain on the system: increased infection rates will lead to increased patient health complications, which will increase resource costs (Alah et al., 2021).

McKinsey’s 7S Framework is a change management framework that can reduce PPE non-compliance amongst staff in in-patient clinical settings (Yoder-Wise, 2018). The framework focuses on seven factors: strategy for change, organization structure, systems, shared values, leadership styles, staff requirements, and staff skill competency (Yoder-Wise, 2018). The purpose of this paper is to propose an increase in PPE compliance by outlining the change process using the 7S Framework.

**McKinsey’s 7S Framework**

The 7S Framework focuses on seven factors that aid in the implementation of quality improvements (Yoder-Wise, 2018). *Structure* is the arrangement of roles within the institution and the relationships they have with one another (McKinsey & Company, 2008). WRH is divided into different units based on the different specialties (e.g., medical-surgical floors, diagnostics, telemetry, etc.). Additionally, the organization has formal leadership from the CEO and administrative board who are responsible for governing such teams.

*Style* refers to the organizational culture and leadership style within the workplace, which for WRH include authoritarian or laissez-faire leadership (McKinsey & Company, 2008). Unit managers and charge nurses delegate tasks and oversee team functioning, while nursing staff take on a followership role: carrying out tasks based on their assignment. The administrative staff within WRH perform organizational duties such as hiring staff, organizing payroll, and creating policies. Similarly, *Systems* focuses on organizational processes needed to function smoothly (McKinsey & Company, 2008). At WRH, there are written policies that staff must follow when providing patient care; these policies explain how to properly perform tasks.

*Skills* signifies the skills of the organization while *Staff* relates to the abilities of individuals (McKinsey & Company, 2008). WRH’s administrative team consists of highly qualified leaders who collaborate to complete administrative and logistical tasks. They are experts at planning, researching, and creating safe policies and frameworks. Unit managers have skills in organization, advocacy, and communication; they represent the staff and voice needs to management. Charge nurses delegate tasks appropriately with consideration to varied skill sets and experience among nurses on the floor. Different floors within the hospital may have more specialized skill sets due to their specific needs. For example, nurses on a psychiatric floor may possess better interpersonal communication skills while nurses in the emergency room have better time-management skills. When a unit prioritizes staffing diversity, it can help increase efficiency and patient care. It also considers the number of qualified staff per unit and statistics (total staff population and staff retention).

*Strategy* is how the organization sets themselves apart from their competition (McKinsey & Company, 2008). In Canada, hospitals are public and not profit-driven (Troy, 2022). Therefore, there is no significant need to have a profit-focused competitive strategy, though they may employ one for public image or funding approval. As it does not match the purpose of paper, the Strategy component will not be used. Finally, *Shared Values* are the goals of the organization. WRH uses the acronym CARE (Compassionate, Accountable, Respectful, Exceptional Values) to represent their mission statement (WRH, 2022b).

**Forming the Team**

There are many stakeholders involved in a new PPE policy. The biggest group affected would be staff. Introducing a new policy implies that the way in which work is normally conducted on in-patient floors will be altered. Nurses will have to receive training and education to learn about the new PPE policy and will have to adapt their routines to the new requirements. Non-nursing staff, such as porters or food tray servers, will also have their routines altered. Instead of using one pair of gloves to deliver all patient trays, servers must exit the room to redon between each patient. These staff may argue that this would cause a delay in task completion.

In terms of stakeholders who play a part in developing this policy, there are many people within WRH who can contribute their expertise: David Musyj, Karen Riddell, Erika Vitale, and Dr. Wassim Saad (WRH, 2022a). David Musyj is the President and CEO of WRH (WRH, 2022a). Him endorsing and promoting the policy would create an automatic level of acceptance due to his influence within the hospital. Karen Riddell leads the Hospital Acquired Infection and Hand Hygiene Corporate Indicator (WRH, 2022a). Along with Erika Vitale, the Infection Prevention and Control Director, both would be able to use their previous experience with PPE and infection control to develop an evidence-based policy that is reasonable, effective, and specific (WRH, 2022a). Resources like the Windsor-Essex Health Unit, the World Health Organization, and even other hospitals can provide information on best practices and policies in place that have been effective. Finally, Dr. Wassim Saad, Chief of Staff, could provide input from the perspective of staff, including advocating for equal distribution of PPE materials to all units (WRH, 2022a). He could also relay feedback from back to the steering committee.

When creating the team that will develop the new PPE policy, the Staff, Skills, and Structure components of the 7S Framework should be used. These will look at the positions and power within WRH to ensure there is at least one representative from each position (one nurse, manager, etc.) so that all perspectives are accounted for in the development of the policy.

**Setting Aims**

A study among hospital staff evaluated overall knowledge and application of appropriate PPE use and discovered a large knowledge gap among staff (Gullpalli et al., 2022). This study traced increased infection rates back to healthcare providers (HCPs), causing staff shortages and further strain on healthcare workers during the pandemic. Therefore, this quality initiative is needed to decrease inter-staff infection rates. The goal is that by February of 2024, WRH will have decreased self-reported staff and patient infection rates by 20% measured through tracking screeners and staff screeners in the hospital. According to the 7S Framework, this goal targets the Shared Values component as it aims to improve care and hopes to achieve lower infection rates (McKinsey & Company, 2008).

**Perceived Barriers to Change**

Policy changes often come with various barriers. One barrier associated with PPE use is the lack of supply. According to Alah et al. (2021), an increase in regulations required for enhanced COVID-19 precautions was associated to shortages of PPE. Many staff had to improvise as a result. Houghton et al. (2020) also note that when changing PPE regulations, the inclusion of other staff, such as cleaning staff, porters, and kitchen staff supports organizational change at various microlevels, ultimately supporting larger change. The constant usage of PPE every shift has a negative effect on nurses and patients; with the pandemic, there is a PPE fatigue epidemic (Uniformed Services University, n.d.). Nurses reported that PPE causes skin irritations, overheating, headaches, claustrophobia, and dehydration; whereas for patients, the PPE causes psychological distance, anxiety, communication, and relationship-building difficulties (Alah et al., 2021; Ong et al., 2020; Sureka et al., 2021; Uniformed Services University, n.d.). Overall, these various factors act as barriers that affect staff’s compliance with PPE.

**Planning for Change**

Many staff understand the importance of PPE, but encounter many barriers as discussed. Planning should focus on identifying these situational barriers, such as limited access to supplies, time-sensitive, high-volume workloads. The team can meet and use the 7S Framework to analyze PPE non-compliance using a “bottom-up approach” which focuses on investigating change efforts at the individual level (Nilsen et al., 2020, p. 4). The approach considers individuals who interact with patients to be the most knowledgeable and best equipped to identify gaps and implement appropriate interventions (Milella et al., 2021). Nilsen et al. (2020) believe individuals are more receptive to change if given the chance and the ability to influence it. Before planning, the team must assess the current use of PPE at WRH and compare findings to the expectation. This would involve tracking how much PPE each unit typically goes through in a set period (e.g., one month). Then, research and discussion on interventions could proceed, as well as planning logistics such as costs, distribution, and other resources required.

‌**Implementing Change**

Implementation of this change should begin with filling in the knowledge gap. Gullapalli et al. (2022) examined a quality improvement change with ICU staff and PPE use and found that implementing mandatory training among staff caused an 86% increase in PPE compliance. Their success shows that there is potential for improvement with WRH staff. Staff training seminars can be offered two or three times a month to accommodate staff schedules and new hires. These one-hour seminars will be divided into two parts: the first to provide education on infection control and importance of PPE, and the second to demonstrate proper donning and doffing technique. Staff will be required to attend only one session per year for completion. To help motivate staff, the hour can be claimed as a continuing education credit. Unfortunately, it is known that some staff choose to willingly ignore PPE protocols, whether from inconveniences, discomfort, or devaluing the safety precautions in place (Parush et al., 2020). To combat this, staff who fail to follow the PPE policy or show a lack of competence regarding PPE—as determined by their management—will be required to redo the course until they receive clearance from the seminar coordinator.

Other aspects of the change would include increasing isolation precaution signage and occasional observation from clinical practice managers. Accountability efforts, such self-reporting on all illnesses with follow-up from the unit clerk, will ensure staff follow COVID exposure and safety protocols. Additional clerks may be required to address this need; this may be a possible budget concern. Furthermore, a unit screener for oncoming staff can take temperatures and identify signs illness (coughing, hoarseness, sneezing, etc.).

Taking the Systems components into consideration, each unit operates differently. Therefore, this policy needs to have some component that addresses the uniqueness of each unit while also ensuring that all units are unified. This can be achieved by designating a PPE representative from each unit. The PPE representative will lead their team and ensure that they follow the policy. This also takes the Style component into account as it recognizes that each unit may need a different type of leader depending on how they normally function. By designating one of the current staff members, the resistance to the change will decrease.

**Evaluating Change**

To track progress, the team can meet every six months. When evaluating the change, team members can communicate progress to staff, allowing all staff to be informed and involved. To have a measure of progress, stores or housekeeping can keep a checklist of the amount of PPE distributed to units and compare to the amount of PPE that is left over at the end of the month. If the amount leftover decreases with time, it indicates that more PPE is being used (not considering other factors: increase in admissions during certain months, damaged PPE that must be discarded, or PPE wasted). Unit managers can also keep track by counting N95s left in boxes to determine staff compliance; N95s leftover implies that staff are not utilizing them. Some limitations when evaluating this change include budget costs, staffing, and resources.

**Conclusion**

In summary, creating strict PPE policies within WRH will help increase staff compliance. Implementation would focus on proper PPE use training and ensuring all units are equipped with the proper types and amount of PPE. While this quality improvement initiative uses inventory tracking and unit screeners to evaluate change, stricter methods that would ensure objective findings, compared to self-reporting, can be added in the future. For example, a PPE Police taskforce, whose jobs are to shadow floors and inspect PPE compliance can be made. Future research into various PPE product options can also help find more comfortable or less wasteful alternatives to currently used products.

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