Optimizing Hand Hygiene: A Data - Driven Approach

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ABSTRACT

Hand Hand hygiene plays a critical role in preventing healthcare-associated infections (HAIs). HAIs have been well recognized around the world for the undesirable complications resulting from course of healthcare treatment received by patient. Since the times of Ignaz Semmelweis in 1846, the association between hand hygiene and infection prevention has been well documented that the rates of infection has fell dramatically. Hand hygiene is one of the easiest, an important mean to reduce the spread of infection. In recent years, healthcare institutions have increasingly embraced technology and data analytics to improve various aspects of patient care. This abstract discusses how data-driven strategies coupled with patient involvement enhanced hand hygiene compliance among healthcare personnel. At IHH Healthcare, we use Hand Hygiene App, to produce instant data that provides immediate feedback that leads to higher compliance to hand hygiene practices. Additionally, by empowering patients and involving them in hand hygiene practices, we able to create a culture of shared responsibility for infection prevention, ultimately improving patient safety and reducing the risk of HAIs. This data driven approach has helped the IHH hospitals to keep their healthcare associate infection at baseline while maintaining a hand hygiene compliance rate above 90%.

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INTRODUCTION

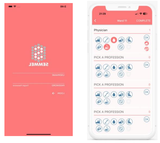
The importance of proper hand hygiene cannot be overstated, especially in today's world, where global health challenges constantly remind us of the critical role our hands play in disease transmission. Healthcare personnel has a choice to provide safe care prior to touching patient. Direct and indirect patient care without proper hand hygiene would result in patient acquiring health care associated infection. Health care associated infection is defined by WHO as infection occurring in a patient in whom the infection was not present or incubating at the time of admission but present after the patients is in healthcare facility to receive treatment. In healthcare setting, although it is simply unavoidable situation not to have contact with patient, but the lapse in performing hand hygiene based on the 5 moments of hand hygiene requirement, has contributed to an increased in healthcare associated infection. Hence, adhering to proper hand hygiene is a fundamental practice for healthcare professionals to prevent the spread of infections within healthcare settings





METHODS AND MATERIALS

The use of mobile Hand Hygiene App to capture real time observation on hand hygiene practice, helps to determine the immediate noncompliance that contributed to HAIs. This data driven feedback assists in improving the compliance towards hand hygiene practice in more effective manner. The observations are recorded within second and result is generated instantly. Patients are empowered to “Speak Up” when a healthcare provider fails to wash their hands prior touching them.



Performance Analysis: Data-driven results allows to assess the hand hygiene compliance of individual healthcare workers. This can help identify those who may require additional training It also provides an opportunity for constructive feedback and coaching



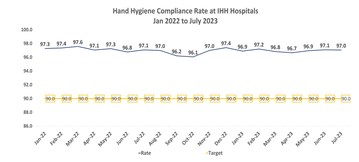
Patient Engagement:
Involve patients in decision-making related to their healthcare.
Encourage them to “Speak UP’ to foster a sense of responsibility for their health

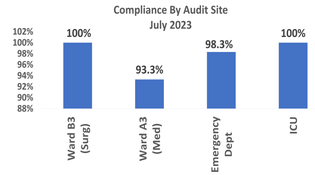


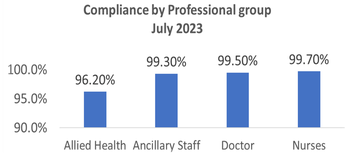
Just Culture:
While a "just culture" aims to avoid punitive measures, it is important to hold individuals accountable for their actions when they knowingly disregard hand hygiene practice.. A "just culture" fosters a culture of safety, transparency, and accountability ultimately reducing the risk of HAIs and improving patient outcomes.

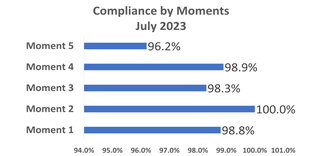
RESULTS

Generating instant report from the Hand Hygiene Apps helps to analyse the data collected in a more effective and efficient manner within seconds. Dashboard information helps to give quick glance on the progress. This method surpass the traditional way of analysing and preparing the hand hygiene report.





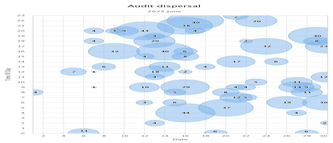




GRAPHS AND TABLES

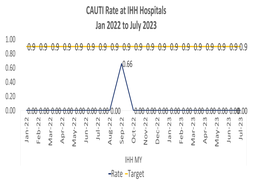
Hand Hygiene opportunity was seen to be dispersed equally and this provide a constant practice is observed among all the healthcare personnel.

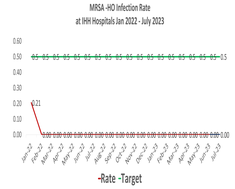
Weekly and monthly audit progress was able to be tracked by the infection control preventionist for immediate rectification.

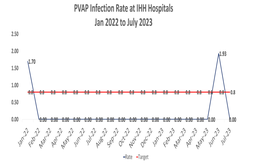


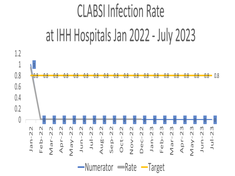


Improved hand hygiene practices lead to a significant reduction in the risk of infection transmission. This include the surveillance on Hospital Onset MRSA (HO-MRSA) and device associated infection namely Possible Ventilated Associated Pneumonia (PVAP), Catheter Associated Urinary Track Infection (CAUTI) & Catheter Associated Blood Stream Infection (CLABSI).









DISCUSSION

The Hand Hygiene compliance recorded via the Mobile App, helps the infection control preventionist, to instantly monitor the progress and provide immediate feedback. These data reports make it easy to share feedback to those who require assistance. The traditional method of performing observation using pen and paper, analysis the report using excel calculation, takes longer time for the infection control preventionist. Hence, the extra time would best be utilized for the targeted approaches with the aim of improving compliance. Providing personalized feedback in a timely manner and getting patients involved in their care is among the most effective method in sustaining a higher compliance among the healthcare personnel.



CONCLUSIONS

By leveraging data-driven approaches and patient participant in their care, we at IHH hospitals have significantly enhanced the compliance hand hygiene practices, ultimately leading to reduced HAIs, improved patient outcomes, and cost savings The data helps the infection control preventionist to target their training approach to the category of healthcare personnel that required further attention to hand hygiene practices as well as the moment missed. This Just Culture is embedded within the healthcare personnel as part of a new learning method towards constantly improving patient safety practices.

REFERENCES

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