# Healthcare Worker Perspectives of Their Motivation to Reduce Healthcare-Associated Infections

Abdullah Ibrahim Alfajhan[1], Abdullaziz Ibrahim Alshamikh[2], Abdullah Ibrahim Al-Bwaredi[3], Ebtehal Ibrahim Alfajhan[4], Saud Ibrahim Albawardi[5], Khalid Abdullah Alshuwayman[6], Abdullah Dghim Al Mutairi[7], Abdulrahman Saleh Alshamsan[8], Bader Nasser Almogbel[9], Enad Mufhed Almutairi[10], Solaiman Abdulaziz Alabood[11], Ahmad Abdulrahman Alguenisa[12]

## Abstract

*Background: Health care-associated infections (HAIs) are largely preventable but impose significant burdens on health care systems. Many institutions have adopted bundled interventions to mitigate HAIs due to their high costs. However, the individual behaviors and motivations crucial for effective and sustained implementation of these interventions have not been thoroughly examined. This study aims to assess the motivations of health care workers in reducing HAIs.*

*Methods: We conducted a phenomenological qualitative study involving health care workers from various roles within a university hospital. Participants were recruited using a snowball sampling method. Utilizing concepts from the Consolidated Framework for Implementation Research model, we conducted face-to-face semi-structured interviews to explore health care workers' perceptions of motivation to adhere to protocols for preventing HAIs.*

*Results: Among the diverse health care workers interviewed, the primary motivators for reducing HAIs were patient safety and improved clinical outcomes. Additionally, factors such as a collaborative environment valuing individual input, transparent feedback at organizational and individual levels, leadership engagement, and ongoing training and workshops were identified as important motivators. Notably, policy considerations, regulatory factors, or financial penalties were not significant motivators.*

*Conclusions: Health care workers view patient safety and clinical outcomes as the key drivers for reducing HAIs. Effective leadership involvement, data-driven interventions with regular performance feedback, and a supportive organizational culture were also highlighted as critical facilitators for HAI prevention.*

[1] Almithnab genaral hospital, Alqassim, Laboratory Technician
[2] Almithnab genaral hospital, Alqassim, Laboratory Technician
[3] Almithnab genaral hospital, Alqassim, Nursing technician
[4] Almithnab genaral hospital, Alqassim, Nursing specialist
[5] Almithnab genaral hospital, Alqassim, Epidemiology Control Technician Public, Health
[6] Almithnab genaral hospital, Alqassim, Nursing Technician
[7] Almithnab general hospital, ALQassim, Nursing technician
[8] Almithnab General Hospital, ALQassim, Technician-Public Health
[9] Nurse technician, Al Qassim Health cluster
[10] Laboratory specialist, Almithnab General Hospital
[11] Laboratory Technicians, Almithnab General Hospital
[12] Thamriyah Dispensary, ALQassim, Nursing technician

## Introduction

Healthcare-associated infections (HAIs) impact nearly 1 million patients annually , resulting in 75,000 deaths. The Hospital-Acquired Condition (HAC) Reduction Program, established under Section 3008 of the Affordable Care Act, aims to incentivize hospitals to decrease HAC incidence by reducing reimbursements for those in the lowest-performing quartile. In recent years, most US healthcare institutions have implemented bundles of evidence-based behavioral interventions to reduce major HAIs such as CLABSI, CAUTI, surgical site infections, methicillin-resistant Staphylococcus aureus (MRSA) bacteremia, and Clostridium difficile infection (CDI). The estimated cost of HAIs, including readmissions and mortality (Magill et al., 2014)

While HAIs are largely preventable through practices like handwashing and proper device usage, sustaining adherence to these interventions can be challenging due to the complexity of behavioral changes required. Many barriers, including organizational culture shifts, hinder the high-fidelity implementation of HAI prevention practices. (Sorensen et al., 2014)

A critical factor in successful intervention implementation is the ability to achieve and maintain behavior modification among healthcare workers. Highly motivated and engaged healthcare workers are essential for the success of any infection prevention initiative. Understanding how individual behavior and motivation influence HAI prevention can provide valuable insights for improving implementation efforts and overall success. (Shah et al., 2015)

Despite this importance, there is limited literature examining healthcare workers' motivation in HAI prevention. Therefore, we conducted a qualitative study to investigate healthcare worker motivation for reducing HAIs. (Wald et al., 2012)

## Methods

Study Design

Our study employed a phenomenological qualitative approach, involving interviews with key healthcare workers in various roles related to HAI prevention, such as administrative and frontline patient care positions, within a large university hospital. We conducted individual semi-structured face-to-face interviews, guided by the constructs from the CFIR model, including aspects related to the external and internal settings and intervention characteristics. The aim was to elicit open-ended responses to delve into respondents' motivations regarding infection prevention and their perspectives on the facilitators and barriers of implementing HAI prevention bundles.

Setting and Timing

The study was conducted at a prominent academic research institution .At the time of the study , the hospital had implemented a prevention protocol for CLABSI , with varying durations of practice for each protocol.

Respondents

We recruited respondents directly involved in implementing HAI prevention measures, including nursing assistants, nurse champions, environmental service managers, trainee physicians, attending physicians, and physicians in administrative roles. Recruitment was conducted via email, and a snowball sampling method was utilized to identify additional potential respondents. Recruitment and interviews continued until theoretical saturation was achieved.

Data Collection and Analysis

Interviews were conducted by a trained research team member in or near respondents' offices to ensure a standardized interview experience. Structured open-ended and follow-up questions were used to explore respondents' familiarity with the implementation processes of CAUTI, CLABSI, and CDI prevention bundles, their perceptions of the interventions' purposes, and their motivations for personal compliance with the protocols. Interviews were recorded, transcribed, and analyzed using a thematic approach based on the CFIR model. The primary interviewer reviewed the interviews multiple times to identify concepts and themes not covered by the CFIR model, ensuring a comprehensive analysis of the data.

## Results:

Out of 15 individuals approached for interviews regarding HAI prevention, 10 were successfully interviewed. These interviews occurred ranged from 19 to 67 minutes in duration. The interviewees included 6 physicians, 2 nurses, 1 nursing assistant, and 1 manager of environmental services, representing various departments such as internal medicine, critical care, hematology-oncology, general surgery, and orthopedic surgery. Several interviewees held administrative or champion roles in HAI prevention protocols like CLABSI, CAUTI, and CDI.

Patient Needs and Resources:

The primary motivation for compliance with HAI prevention protocols among all respondents was patient safety and a desire for optimal patient outcomes. They also highlighted organizational resources, quality measures, and hospital reimbursement as factors facilitating patient safety, while insufficient infection prevention training and lack of leadership support were identified as barriers.

External Policy and Incentives:

Many respondents viewed the HAC Reduction Program positively, citing it as a driver for increased attention and resources toward HAI prevention. However, external policies and financial consequences were not strong personal motivators for most respondents.

Available Resources:

Respondents felt they had sufficient resources for HAI prevention due to institutional prioritization and leadership support. However, they identified a need for standardized and ongoing training, especially in areas like CDI prevention.

Goals, Monitoring, and Feedback:

While goals were clearly set, respondents were uncertain about how progress was monitored and lacked timely feedback. They emphasized the importance of transparent data and personal feedback for motivation.

Culture:

The institution's reputation as a leading academic research center motivated respondents to maintain high standards in HAI prevention.

Implementation Climate:

Respondents discussed challenges such as information overload but also noted flexibility and openness to evidence-based interventions.

Leadership Engagement:

Positive leadership support and advocacy were significant motivators for adherence to HAI prevention protocols.

Evidence Strength and Quality:

Respondents valued strong evidence supporting intervention protocols and emphasized the importance of data transparency in motivating compliance.

Overall, the study highlighted the complex interplay of factors influencing healthcare workers' motivation in HAI prevention, including patient safety, resources, leadership support, evidence-based practices, and feedback mechanisms.

## Discussion:

Our study revealed that healthcare workers are primarily motivated by a desire to enhance patient safety and clinical outcomes, rather than institutional policies, regulations, or financial incentives, in their efforts to reduce HAIs. This finding underscores the intrinsic motivation of healthcare workers in direct patient care roles, such as faculty, nurses, and environmental service workers, to prioritize patient safety. Conversely, those in administrative roles also considered policies and financial reimbursements as motivators, highlighting the differing motivations based on occupation and hierarchical structure within healthcare settings. (Saint et al., 2010)

The variation in motivation among healthcare workers based on their roles and responsibilities is crucial for aligning expectations and enhancing compliance with HAI prevention strategies. Our findings align with prior studies that emphasize the importance of understanding individual motivations and tailoring implementation efforts accordingly. (Touveneau et al., 2013)

We also identified several factors that can facilitate adherence to infection control strategies. These include resource availability, leadership engagement, participatory decision-making, and a collaborative work environment that values individual input. Engaged leadership, in particular, plays a pivotal role in serving as a positive role model and advocating for HAI prevention efforts. (Gifford et al., 2013)

Our study suggests several opportunities to further support HAI reduction initiatives. These include addressing barriers such as lack of focused training, information overload, and inadequate access to transparent and timely performance feedback. Tailored training programs and leveraging information technology for data transparency and real-time feedback can enhance healthcare workers' adherence to prevention protocols. (Aarons et al., 2015)

However, our study has limitations, including a small sample size from a single institution, reliance on self-reported motivation, and potential biases such as self-selection bias and social desirability bias. Future research could explore these factors in larger and more diverse healthcare settings, incorporate direct observations of healthcare worker behavior, and evaluate the impact of specific interventions on HAI prevention outcomes. (Mauger Rothenberg et al., 2012)

In conclusion, our study emphasizes the importance of intrinsic motivation, leadership engagement, and tailored support mechanisms in promoting adherence to infection prevention practices among healthcare workers. By understanding and addressing individual and organizational motivators, healthcare institutions can enhance their efforts to reduce HAIs and improve patient outcomes.

## References

1. Magill SS, Edwards JR, Bamberg W, Beldavs ZG, Dumyati G, Kainer MA, et al. Multistate point-prevalence survey of health care-associated infections. N Engl J Med. 2014;370:1198-208.

2.  Centers for Disease Control and Prevention (CDC). Healthcare-associated infections (HAIs), data and statistics page. 2016. Available from: https://www.cdc.gov/hai/surveillance/. Accessed November 8, 2016.

3.  Quality Net. Overview: Hospital-Acquired Condition (HAC) Reduction Program. 2016. Available from: https://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1228774189166. Accessed November 8, 2016.

4.  Centers for Medicare & Medicaid Services. Hospital-Acquired Condition Reduction Program (HACRP). 2016. Available from: https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/HAC-Reduction-Program.html. Accessed November 8, 2016.

5.  Mauger Rothenberg B, Marbella A, Pines E, Chopra R, Black ER, Aronson N. Closing the quality gap: revisiting the state of the science (vol. 6: prevention of healthcare-associated infections). Evid Rep Technol Assess (Full Rep). 2012;208:1-578.

6.  Scott RD II. The direct medical costs of healthcare-associated infections in U.S. hospitals and the benefits of prevention. 2009. Publication No. CS200891. Available from: https://www.cdc.gov/hai/pdfs/hai/scott_costpaper.pdf. Accessed July 7, 2017.

7.  Sorensen A, Jarrett N, Tant E, Bernard S, McCall N. HAC-POA policy effects on hospitals, other payers, and patients. Medicare Medicaid Res Rev. 2014;4.

8.  Wald H, Richard A, Dickson VV, Capezuti E. Chief nursing officers' perspectives on Medicare's hospital-acquired conditions non-payment policy: implications for policy design and implementation. Implement Sci. 2012;7:78.

9.  Pittet D. The Lowbury lecture: behaviour in infection control. J Hosp Infect. 2004;58:1-13.

10. Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. Implement Sci. 2009;4:50.

11. Fox J, Cooney M, Hall C. The Seattle virus watch. V. Epidemiologic observations of rhinovirus infections, 1965-1969, in families with young children. Am J Epidemiol. 1975;101:122-43.

12. Shah N, Castro-Sánchez E, Charani E, Drumright LN, Holmes AH. Towards changing healthcare workers' behaviour: a qualitative study exploring non-compliance through appraisals of infection prevention and control practices. J Hosp Infect. 2015;90:126-34.

13. Seto WH. Staff compliance with infection control practices: application of behavioural sciences. J Hosp Infect. 1995;30(Suppl):107-15.

14. Stein AD, Makarawo TP, Ahmad MF. A survey of doctors' and nurses' knowledge, attitudes and compliance with infection control guidelines in Birmingham teaching hospitals. J Hosp Infect. 2003;54:68-73.

15. Saint S, Kowalski CP, Banaszak-Holl J, Forman J, Damschroder L, Krein SL. The importance of leadership in preventing healthcare-associated infection: results of a multisite qualitative study. Infect Control Hosp Epidemiol. 2010;31:901-7.

16. Touveneau SCL, Ginet C, Stewardson A, Schindler MBM, Pittet D, Sax H. P168: Leadership styles of ward head nurses and implementation success–a qualitative inquiry in the framework of a mixed-method study on hand hygiene promotion through patient involvement. Antimicrob Resist Infect Control. 2013;2(Suppl):168.

17. Gifford WA, Davies BL, Graham ID, Tourangeau A, Woodend AK, Lefebre N. Developing leadership capacity for guideline use: a pilot cluster randomized control trial. Worldviews Evid Based Nurs. 2013;10:51-65.

18. Aarons GA, Ehrhart MG, Farahnak LR, Hurlburt MS. Leadership and organizational change for implementation (LOCI): a randomized mixed method pilot study of a leadership and organization development intervention for evidence-based practice implementation. Implement Sci. 2015;10:11.