

100 days, 100% hospital-acquired pressure ulcer-free campaign at a Saudi Arabian rehabilitation facility



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This article describes the 100 days campaign at the Sultan Bin Abdulaziz Humanitarian City Rehabilitation and Medical Center, which aimed for the hospital to be 100% free of hospital-acquired pressure ulcers (HAPUs) during the 100-day campaign period. The campaign involved the whole organisation with 17 inpatient units participating. The centre's practices regarding the management of patients' skin, which had been developed over the previous four years, were retained during the period, but there was an additional multi-faceted prevention awareness campaign targeting healthcare professionals, patients and their carers. Fifteen of the 17 inpatient units (88%) maintained a zero HAPU percentage during the 100 days, reducing the monthly average rate by 73% from 1.35% to 0.36%.

Sultan Bin Abdulaziz Humanitarian City (SBAHC) — a rehabilitation facility in Riyadh, Kingdom of Saudi Arabia — carried out a campaign to become 100% HAPU-free for 100 days in all of its inpatient units. The facility cares for people with varying conditions where pressure ulcer formation is a significant risk factor, including spinal cord injuries, stroke, amputation, brain injuries and paediatric rehabilitation. HAPU incidence had been monitored for three years before the campaign was devised and this stimulated a desire to reduce the rates further after an initial target of 0–1% HAPU had not been reached. Overall average rates across the hospital's units recorded over the three years were 1.78% (2010), 1.60% (2011) and 1.80% (2012) [Figure 1].

The facility has built up a comprehensive pressure ulcer prevention and management policy based on thorough assessment, reporting and extensive preventive measures. A pressure ulcer risk assessment is conducted upon admission using the Braden Scale for Predicting Pressure Sore Risk^[1]. A head-to-toe assessment of every patient's skin is required within 2–6 hours of admission and documentation must be completed within 24 hours to provide baseline measurements. These assessments help to identify patients who are at high-risk of developing pressure ulcers. Protocols per level of risk (according to their score) are implemented. Skin inspection and initial patient education is carried out by the

wound care specialist nurse together with the patient's assigned unit nurse for a patient who has a Braden Scale score of 18 and below. The unit nurse then provides follow-up education.

Pressure ulcers noted during the first day of admission are documented as community-acquired pressure ulcers (CAPU). The incidence of HAPUs is recorded on a monthly basis.

Regular education for the patient, their family or caregiver, and healthcare providers is given after the initial assessment. It focuses on early signs of pressure ulcer development, predisposing factors and common factors that can lead to pressure ulcers, when to report changes and how to implement preventive measures. Staff education also includes how to provide patient education, risk assessment, correct identification of pressure ulcer-related skin injury and staging of pressure ulcer tissue damage.

After the initial assessment, routine skin inspection is carried out at every shift and every time an at-risk patient is turned. Any patient noted to have a pressure ulcer after 24 hours of admission is documented as having developed an HAPU and is reported to the wound care specialist for follow-up.

A pressure ulcer will not be documented as an HAPU if the patient has previously refused to comply with pressure ulcer prevention measures despite several consistent attempts to encourage them. Another exclusion applies among terminally-ill patients where pressure

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ulcers cannot be prevented even when optimum care is provided.

The data collected is used to calculate monthly acquired pressure ulcer incidence figures for each unit and the whole hospital. A pressure ulcer quarterly point prevalence survey is conducted by the Hospital Acquired Pressure Ulcer Prevention Team (HAPUPT) together with the charge nurses of each unit. A thorough skin assessment is carried out for each patient during the survey.

A history of tackling HAPUs: how the centre has developed its pressure ulcer prevention policy 2009–2013

The HAPUPT was formed in September 2009 and consists of members of the interdisciplinary team. The team reviewed and analysed recorded HAPU data from 2008 to August 2009. Problem areas included:

- Failure of the staff to identify pressure-related skin injuries and classifying tissue damage.
- Failure to deal with identified risk.
- Unreported and undocumented pressure ulcers.
- Lack of patient education and awareness of causative factors and pressure ulcer prevention measures.

The HAPUPT reviewed and revised the pressure ulcer prevention and management policy with these challenges in mind. The Pressure Ulcer Prevention Clinical Pathway was created and a series of lectures on pressure ulcers (risk assessment, identification and classification) was given to healthcare providers. The wound assessment document was revised to clarify the identification of skin injury.

A quarterly unit selected pressure ulcer point prevalence survey was initiated. It was conducted unannounced to a selected unit as decided by the HAPUPT to randomly check documentation and reporting of HAPUs. A common language in communicating the classification of tissue injury for pressure ulcers was created using findings from these surveys. At the end of 2011, results of HAPU monitoring were again reviewed and it was found that:

- Most HAPUs were occurring in people with spinal cord injuries (SCI) (56%) and this was also consistent from the previous years' figures which were 57% (2009) and 36% (2010).
- Common factors causing HAPU were lack of preventive measures using identified risk factors (50%); device-related (31.8%); patients' non-compliance of preventive

measures (9.1%) and undocumented/unreported pressure ulcers (9.1%).

In 2012, a goal was created to reduce SCI HAPU percentage incidence to 28% to halve the 2011 SCI HAPU rate. Three sub-goals were also created:

- To educate more than 80% of the staff involved in direct patient care by the end of 2012
- To reach 100% compliance for documentation regarding presence of HAPUs or CAPUs
- To achieve $\leq 50\%$ of the total quarterly HAPU prevalence rate among SCI patients.

Several modifications in the practice were implemented throughout the facility during 2012:

- A new prevention system was introduced
- The quarterly unit selected pressure ulcer point prevalence survey was shifted to quarterly hospital-wide pressure ulcer point prevalence survey to accurately monitor the units and hospital HAPU prevalence
- Monthly checks on SCI units were conducted to ensure proper implementation of preventive measures and documentation of pressure ulcers
- A patient educational tool was created
- An alert system was added with a 'pink turning clover' icon that pops out on patients' documents according to their risk level
- A turn and skin monitoring tool was also developed in conjunction with the alert system in order to provide early intervention and close monitoring of patients who are at risk
- The SCI group was targeted for education which is given every month and 82% of the total healthcare providers with direct patient care were educated
- 99.55% compliance to pressure ulcer documentation was achieved
- The HAPU point prevalence percentage among SCI was 40.6% which is 9.4% lower than the target goal of 50%.

Methods

The 100 Days 100% HAPU-Free campaign was launched in the facility on 1 September 2013 and ended on 9 December 2013. There were four goals:

- To reach 100 days with 0–1% HAPU incidence in each inpatient unit
- To reduce the hospital costs in treating HAPU by 50%
- To improve the attitude of the healthcare providers towards prevention

- To increase the knowledge of the patient regarding pressure ulcer prevention.

Before the initiative was launched, the campaign was advertised in a local newspaper to raise general awareness in the community. The advert invited other healthcare institutions to join in with the pressure ulcer education programme. The programme was then conducted for healthcare providers involving attendees from other facilities that sometimes refer patients to the hospital. None of the centre's practices and protocols were changed during the campaign period, although there was an increased emphasis on the awareness of pressure ulcer cause and prevention. Visual aids such as banners and posters were created to attract the attention of patients, family, care givers and healthcare providers regarding the campaign's theme and aim. An announcement that reminded everyone about the importance of skin checks and repositioning was broadcast to all units using an overhead paging system and pressure ulcer prevention and management articles were sent each week by email to update staff on the wards. Re-assessment and validation of patients' skin condition after therapy was also put in place.

A survey was undertaken regarding awareness about pressure ulcer cause and prevention among patients, family and caregivers and another was used to gauge healthcare providers' views on pressure ulcer prevention. There were 71 patients who participated in the survey and it was conducted during the campaign period among patients who had been at the hospital for more than a week as they should have received skin care and pressure ulcer prevention education within their first week of admission. Only patients who agreed to participate in the survey were included. A Likert scale tool was used with 15 questions presented in Arabic and English.

Moore and Price's 'Healthcare providers' views on pressure ulcer prevention survey' was conducted among healthcare providers in charge of direct patient care^[2]. This included nurses, nursing aides, physical and occupational therapists and physicians. There were 105 healthcare providers who voluntarily participated in the survey which involved 11 questions about views on pressure ulcer prevention answered using a Likert scale.

Competitions were set up for each unit with emphasis on patient and family/caregiver involvement. Staff were encouraged to produce presentations, displays, story boards, essays,

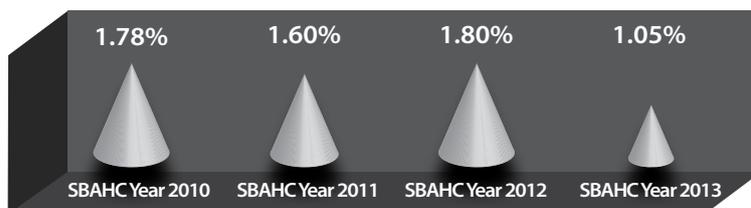


Figure 1. SBAHC HAPU yearly monitoring (2010-2013).

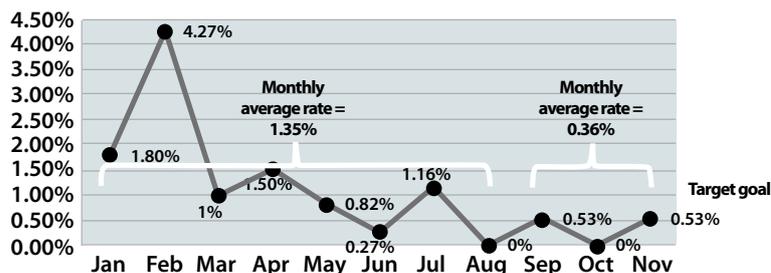


Figure 2. SBAHC HAPU monthly monitoring (Jan-Nov 2013).

flyers and case study presentations. Rewards were offered to units who achieved the goal of zero HAPU after the 100th day. Trophies and certificates of appreciation were given to the successful units. Staff who performed well during the campaign were also commended.

Results

The campaign resulted in a significant decrease in the monthly HAPU average rate by 73% — from 1.35% to 0.36% — for the three months covering the 100 days campaign [Figure 2]. The overall average rate for 2013 was 1.05%, which is down by 41.66% when compared with the rate in 2012. The monthly rates also decreased by 63% during the campaign period [Figure 2]. Healthcare providers' views on pressure ulcer prevention showed that 93.3% had a positive attitude [Figure 3]. It is essential to review the remaining 6.7% and it will be continuously monitored as it may indicate that some staff need further education. Future initiatives will try to encourage all healthcare providers to participate in surveys in order to have a more accurate outcome. Meanwhile, the patient and family/caregiver awareness survey showed that out of 71 people, 4% reported no awareness, 10% poor awareness, 21% good awareness and 65% excellent awareness, demonstrating that 86% had an acceptable level of awareness and 14% had an inadequate level [Figure 4].

After reviewing the results, recommendations include a continuation of the current prevention practices and the monitoring of HAPU rates. Awareness activities should

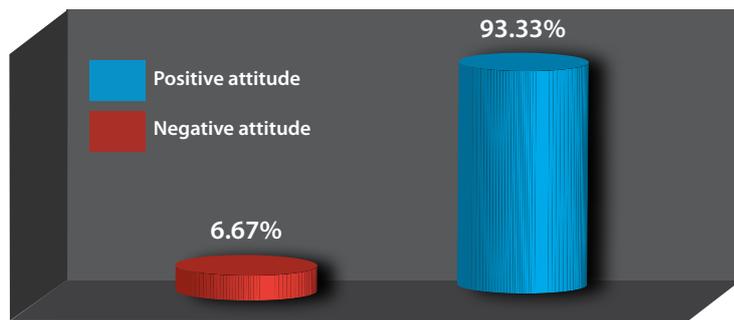


Figure 3. Results of survey on healthcare providers' views on pressure ulcer prevention after the 100 days campaign.

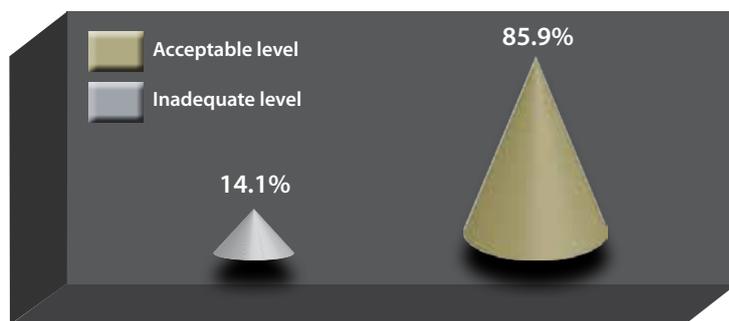


Figure 4. Results of survey of patient and family/caregiver awareness of pressure ulcer cause and prevention after the 100 days campaign.

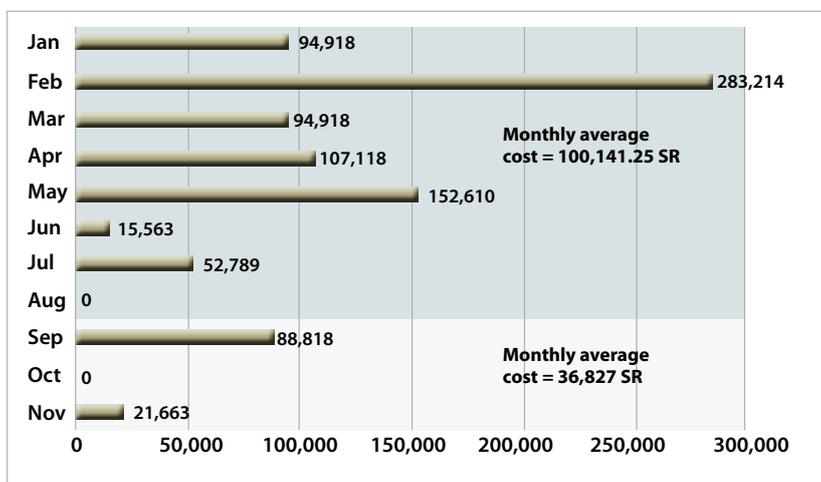


Figure 5. SBAHC 2013 HAPU treatment costs before and during the 100 days campaign which ran from September to December.

continue through a series of campaign periods with an increased emphasis on the patient–healthcare provider relationship. The effectiveness of patient education should be reviewed as the patient/family/carer survey did not achieve 100%. As most of our patients will be discharged from the facility and still be at risk of pressure ulcer development, education about preventive measures must be established from the time of admission until discharge. Ownership and accountability

should also be encouraged. The average monthly cost of treating Stage I to IV HAPU was calculated before the campaign period from the months of January until August 2013. The costs per stages ranged from 6100 SR (£974) for Stage I; 15,563 SR (£2485) for Stage II; 73,255 SR (£11,697) for Stage III; and 143,085 SR (£22,846) for Stage IV. This calculation includes dressing materials, dressing procedures, support surfaces, basic nursing care, consumables, patient bedroom/stay, consultations, and debridement. Total figures of HAPU according to stages were collected each month. The average cost of treatment during the 100 days campaign was reduced from 100,141.25 SR (£15,990) to 36,827 SR (£5880.55) [Figure 5].

Conclusion

The HAPU rate has been lowered at SABHC, but there needs to be further improvements in order to fulfil the organisation's vision 'to be an internationally recognised centre of excellence in rehabilitation and related healthcare services'. Improvements would involve re-evaluating the pressure ulcer prevention education process for patient, family and caregiver education as well as enhancing the healthcare providers' commitment towards prevention. One of the limitations in this study is the self-selection of subjects participating in the surveys. Sampling methods must be reviewed and strategies must be developed to encourage greater participation in order to gain a more accurate outcome. Another limitation is the exclusion of HAPUs that developed from non-compliance because these patients are obviously failing to act on pressure ulcer prevention advice and it would be beneficial to determine why this happens. Most pressure ulcers are preventable and successful pressure ulcer prevention is a subtle measure of the quality of nursing care. However, the success of reducing the incidence of HAPUs does not rely merely on nurses checking the skin and turning the patient, but needs an interdisciplinary approach with a positive attitude to prevention by maintaining both the patients' and healthcare professionals' awareness of cause and prevention.

References

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2. Moore Z, Price P. Nurses' attitudes, behaviors, and perceived barriers towards pressure ulcer prevention. *J Clin Nurs* 2004; 13(8): 942–51