



Using the Compass Methodology to manage Surgical Site Complications in Caesarean Sections

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Objectives

Service Improvement audits build a framework for implementing real world evidence-based clinical pathways responsive to local health demographics. A service improvement project aimed at establishing and decreasing the incidence of surgical site complications (SSC) after caesarean sections was undertaken across 3 UK maternity centres. A Surgical site complication is a type of healthcare-associated event in which a wound complication occurs after an invasive (surgical) procedure. A surgical site complication may range from a wound discharge within 7 to 10 days of an operation to a life-threatening postoperative complication, such as an organ space infection¹. SSCs in women undergoing caesarean section have a negative impact on quality of life and present a risk of morbidity, extended length of stay or readmission and increased healthcare costs². The clinical pathways stratify women into high and low risk groups of SSC development propensity, with high-risk women receiving a Single Use Negative Pressure Wound Therapy (sNPWT) device and low-risk women receiving a standard surgical dressing. sNPWT has been shown to reduce the rate of SSCs in women with risk factors such as high BMI or diabetes¹.

Design

Applying the Compass methodology (a value-based change program) a service improvement project was undertaken consisting of 4 steps Orientate, Navigate, Activate and Evaluate. Retrospective audits to establish a baseline Caesarean SSC incidence at all centres were conducted in the ‘orientate’ phase. During the ‘Navigate’ and ‘Activate’ phases of the process, a risk stratified wound management pathway was designed and the use of sNPWT implemented for women identified via the pathway as high risk for SSC development. A prospective post-intervention audit will then be conducted during the ‘Evaluate’ phase to inform service improvement.

Methods

Data were collected using a custom-built form, delivered using the Snap Survey XMP platform. The Snap platform was chosen due to its comprehensive data collection capabilities and security credentials. No patient identifiable data were collected, and data protection was a key consideration of the platforms selection and data input was made via unique secure weblink. The validated combined dataset contained information from over 600 cases. Key data points collected and analysed include procedure category, BMI, smoking status, comorbidities, complication presence and type, readmission and length of stay metrics.

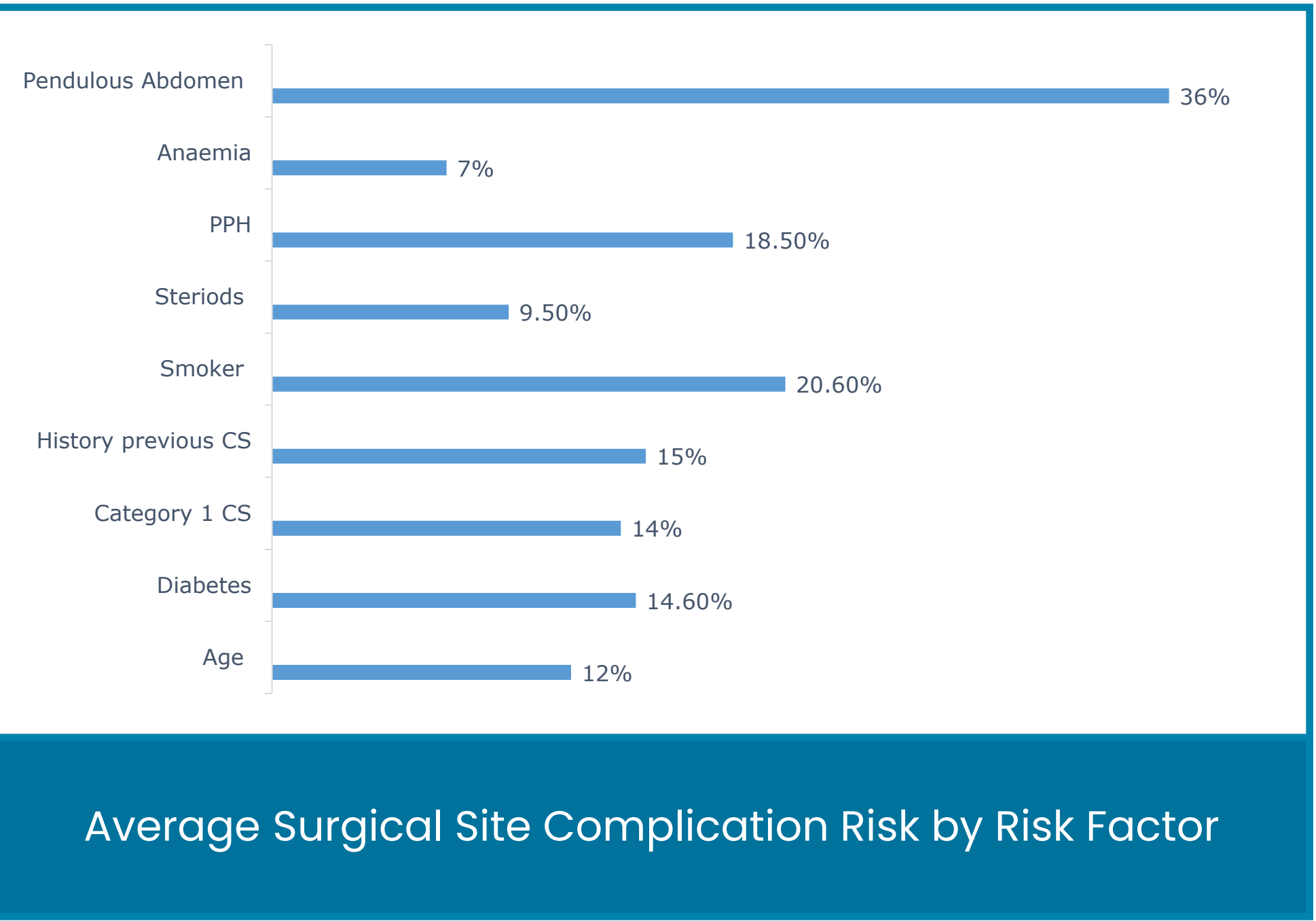
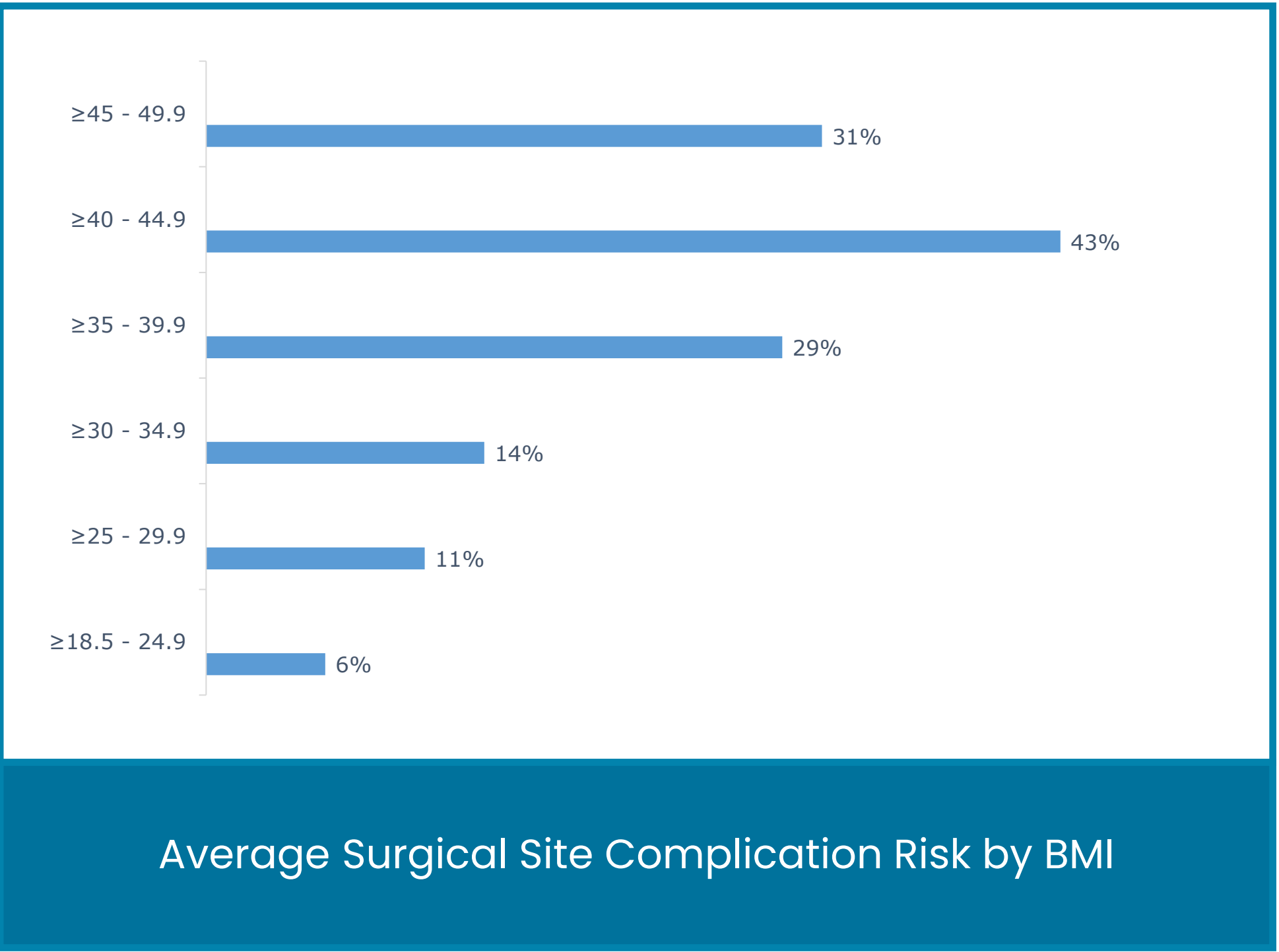
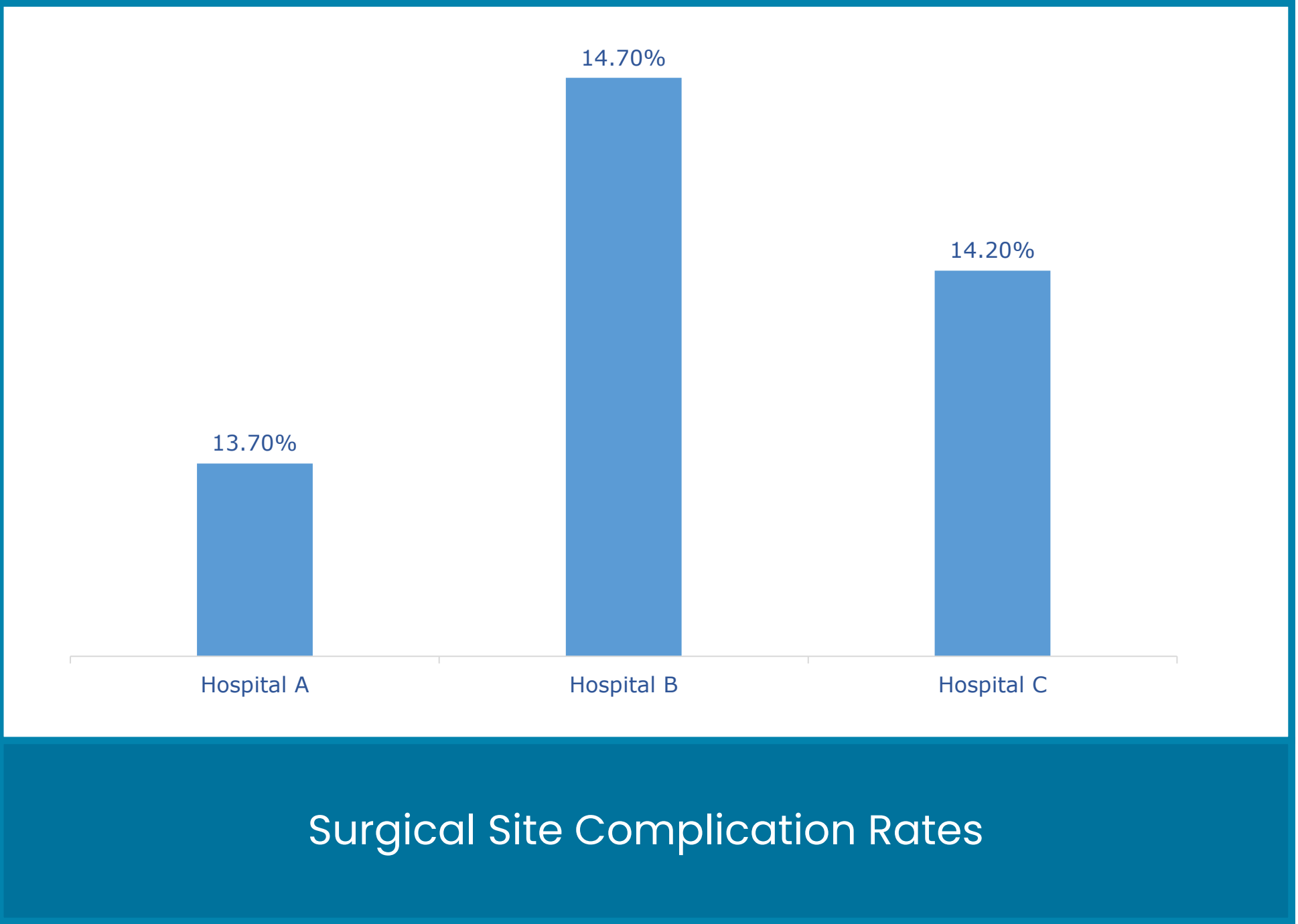
Results

Results demonstrated risk factors most associated with SSC development were a high BMI, post-partum haemorrhage, smoking and diabetes. Interestingly whilst demographic characteristics varied considerably between sites, analysis of the retrospective audit data showed comparable SCC rates range between 13.7% and 14.7%.

Conclusion

Development of real-world, evidence-based, risk- stratified pathways is informed by analysis of baseline audit data. We anticipate that prospective analysis of subsequent targeted post-intervention audit data is likely to impact service improvement strategies.

References
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2. Mendiratta Imtisha, Ryan Clavin Zilaw, Mainard O'Riordan, Aolife Currie, Tim Styche, Jacqui Hughes, Catherine Whittall. Single use negative pressure wound therapy to prevent surgical site complications in high-risk patients undergoing caesarean sections: a real-world study, *International Journal for Quality in Health Care* Volume 35, Issue 4, 2023, mzad089, <https://doi.org/10.1093/itqhc/mzad089>



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Acknowledgments
With thanks to Mohammed Osman, Vivian Franklin and Ellie Jarvie.