Report for Burdett

Surgical site infection (SSI) is the most significant healthcare-associated infection (HCAI) affecting surgical patients. A systematic study across surgical specialties confirmed that the majority of SSI are identified after discharge from hospital (Woelber et al, 2016). Many of these infections are thought to be preventable when captured in a timely manner. Reducing these infections is a priority for health organisations as it is estimated to cost the NHS over £1 billion per year (Rochon et al., 2020). Early detection of SSI is crucial to reduce the severity and duration of infection. Rochon (2016) demonstrated that Photo at Discharge (PaD) resulted in a reduction in readmissions for SSI and associated 'costs avoided'. The concept of PaD is that, on discharge, patients are provided with a photograph of their surgical wounds, and a completed wound assessment which generates bespoke advice about monitoring their wound for signs of infection. This provides a baseline to help identify whether the wound is improving or deteriorating (for patients and healthcare professionals to use). The PaD scheme is in line with NICE guidance on providing information to patients to reduce SSI (NICE 2017). PaD is followed by surgical site surveillance.
ISLA is a web-based platform where images can be submitted by both clinicians and patients. Photos can be taken on a phone but then stored online. It is used on other trusts in London. Patients receive remote requests to submit photos of their wound after discharge to monitor for infections and enable early detection. This is in line with guidance from the National Wound Care Strategy Programme (NWCSP) and the NHS Post-Operative Playbook that have highlighted image capture and review as essential capability for all Trusts.

Following our successful bid from Burdett we set up a wound surveillance project for patients following cardiac surgery. Surgical site infections (SSI) have considerable impact on mortality and length of stay plus a significant effect on patients' quality of life (NICE 2020). They also cost the NHS (National Health Service) £700million (Totty JP et al., 2018) per year. Left untreated these can lead to much more serious conditions.
Objectives

- Collect and structure all types of visual data for a clinical episode
- See how conditions develop over time immediately
- Share and collaborate with colleagues within the platform
- Monitor wounds post discharge
- Reduce readmissions by early detection of SSI
- Better communication with patients via the platform after discharge
- Reduce reliance and time on manual processes.

Prior to this project, our previous management consisted of wound advice being provided to the patient on discharge. This was both verbal and written advice printed within their

discharge summary. They were advised to contact us by phone if they had any issue with their wound. They were then followed up with an outpatient appointment in 6 weeks. Additionally, if a patient did raise wound concerns via a telephone call, it would result in clinical decisions being made mostly on wound description rather than photo evidence and no clear pathway existed to submit photos to the clinical team. If they did/could send a photo this was made by non-secure means. Other than that, there was no provision for wound surveillance.
The aim of this project was to have better systems in place so we can capture wound issues earlier, and to prevent serious infection and readmission to hospital. Our aim was to improve our patient experience. We also wanted a system which would not be time consuming or labour intensive.

With the implementation of ISLA, we now take a photo of all patients wounds on the day of discharge. This prompts a text to the patient on day 14 and 28 after discharge to send back a photo of all their surgical wounds. Patients are also asked to fill out a form describing their wound. It is a simple tick box form asking if there is any oozing, redness, swelling etc. This system enables us to baseline the patients wound and track positive or negative changes during their recovery. See attached SOP.

4218 submissions have been made into ISLA across the team since its implementation, with 534 patients having submissions in ISLA. 21 clinicians are using the platform. The main users are the Advanced Clinical Practitioner (ACP) team, made up of 8. We are the team who take all PaD. Other users include consultants, registrar's and F1 junior doctors, our SSI surveillance nurse, and our matron.

We started using ISLA in late October 2022. To date we have 534 patients on the system.

- Of these 47 (8.8%) did not engage and did not submit any follow up photo. 67 (12.5) only submitted one follow up photo on day 14. All these xxx had no issue with their wounds.
- 63 patients were seen in our emergency follow up clinic,
- 42 patients were followed up by a GP or practice nurse.
- 78 patients were followed up with a phone call.
- 15 patients were readmitted for IV antibiotics and /or VAC dressing.
- 47 were started on PO antibiotics

Each photo is reviewed by one of our Advanced Clinical Practitioners (ACPs) and an outcome is recorded.

Outcomes include:

- Nil action
- PO antibiotics
- Continue to monitor
- Review with practice nurse
- IV antibiotics
- admission
- VAC dressing
- Awaiting follow up photo
- Phone call and advice given
- Come to clinic for review
- Further photo requested
- Await 28-day photo
- To see GP
- Re-admission

The project is still in its infancy, and we recognise the need to continue to gather data. We have noted some Positive feedback and areas for improvement.

Positives:

-User feedback has been very positive from both clinicians and patients.

-ISLA is easy to use.

-We are detecting wound issues early and now have systems in place to manage issues better.

-Fewer patients are being brought into hospital for a face-to-face review

-Clinicians can more confidently and safely undertake a watch and wait approach

- It has improved practice within the department.

- It has revolutionised the accuracy of wound surveillance

- It enabled secure streamlined communiction between clinicians and patients.

Areas for improvement:

-Lack of engagement from some patients

-Increase workload for the ACP (Advanced Clinical Practitioner) team

- Unactioned photos

-We have also had some issues with data collection, so we (ACPs) have created a separate excel spread sheet to collect patients' outcomes.

- Work with ISLA to improve data collection

The project launch was initially delayed due to Data Protection Impact Assessments (DPIA) for IT governance. It took several weeks to receive approval to start the project. For this reason, we requested an extension which was granted, and our completion date was extended to October 2023. We had further delays getting funds in and out of the trust due to communication issues within our finance department. With the £44,670, we secured a yearlong contract with ISLA paying £28,050. This included the use of ISLA and a set up training programme with continued TECH support. £2,620 was spent on nursing staff for hours worked in setting up the project. When the project was a year in, we still had £14,000 in the budget. We negotiated a reduced fee with ISLA and have extended the project until May 2024. This gives us more time to construct and submit a business case to the trust to persuade them to fund ISLA going forward.

In March 2023 I presented our project at the Society of Cardiothoracic Surgeons (SCTS) and wrote an article for the SCTS magazine, which was published at the time of the conference. We had lots of interest and positive feedback at this time. There were lots of questions and follow up email enquiries. We championed Burdett throughout, for funding our project, without them it would not have happened.

We continue to work to improve our processes so we can gain better data from ISLA. On discharge, patients have between 1-4 wounds. We ask for only one photo of each, however on occasion people have sent 1- 15 photos, sometimes multiple photos of the same wound. ISLA reports on photos rather than episodes. Therefore, it is sometimes difficult to extrapolate outcomes from the data easily. For this reason, we have kept our own excel spreadsheet. We record every patient and their outcomes

Within the ISLA platform patients are surveyed to get feedback on how they find the service.
They were asked two questions-

1. Do you feel the ISLA service respected the privacy of delivering services on behalf of your healthcare provider. 100% of people said yes.
2. Would you recommend ISLA? 94.3% of people said yes

As previously mentioned, we are now in the process of writing a business case to put forward to the trust in the hope that they will continue to fund ISLA as it has been such an asset to our service. We are working closely with ISLA to realise the financial benefits our project with will help our case.

Up to December 2023 we calculated savings of £37,000.
How was this calculated?

- ACP time saved for a F2F review per month - 4hr/month
- ACP time in £ - taken from national salary data (assumed AfC Band 8) - £100.24/month
- Nursing time saved in EACU for bloods, ECG etc - 4hr/month
- Nursing time in £ - taken from national salary data - £80.24/month
- Additional 1 patient advised to see GP for antibiotics, preventing F2F hospital review, saving additional 2 total hours of ACP and nursing time review
- Avg bed days saved per month - 3
- Avg bed day costs saved per month - ~ £351, taken from published articles on NHS bed day costs
- Total: £19,179

Additional:

- 0.5 FTE saved for Band 6 SSI nurse: ~£18k

I have also been working with an epidemiologist who is helping me work through the data. This will help in future applications for funds should our trust be unable to fund ISLA.

We report SSI figures to the UK Health Security Agency (UKHSA). The inception of SSI surveillance coincided with the deployment of Isla in Cardiac surgery. Subsequently, Isla has proven to be an invaluable platform, rendering significant contributions to our SSI surveillance endeavours. ISLA has highlighted high infection rates. Similarly, this occurred in other London trusts when they started using ISLA. This is possibly because previous SSI had gone unreported. Subsequently we have put several new systems in place to try and reduce infection rates. We have been given funding for a nurse to set up a wound clinic so we can see patients with wound issues. This can be a planned or an urgent appointment. I am working with a consultant anaesthetist to make a structured plan on how we respond when an SSI has been identified with a view to summarising this in a flow chart. There has also

been an SSI steering group set up that meet once a month. The group comprises of ACPs, nurses, Consultant surgeons, Consultant anaesthetists, microbiologists, infection control nurses, theatre nurses, ODPs and plastic surgeons. This multidisciplinary approach has brought positive change to our approach to wound management.

Moving forward we will train more staff to use ISLA. We plan to further survey patients and start to survey staff to get formal feedback. We will continue to collect data and audit the project. We continue to work with ISLA to streamline data collection, so in the future we can obtain the appropriate outcomes for our service in a more efficient manner.

I would like to thank Burdett for this amazing opportunity. It has profoundly changed the way we manage our cardiac surgical wounds. It did highlight high rates of infection but in doing so we are changing practices to improve services for our patients. In the future it will save us financially and I believe will ultimately save lives.

SOP for ISLA

- Every patient has a photo taken on the day of discharge.
- Day 14: a web link sent to patient for updated photo and survey to be completed.
- This photo is then uploaded onto their profile on ISLA.
- Day 28: Same as Day 14.

- Every photo is reviewed and 'actioned'.

This is a list of actions/annotations made to each photo:

- Further review in a week

- Review by practice nurse

- No further action

- Continue to monitor

- Patient called and advise given

- PO antibiotics

- IV antibiotics

- IV antibiotics and VAC

- IV antibiotics and VAC and plastics

- Re-admission

- Await 28-day photo

- Request further photo

- To come to EACU

- To see GP

- If there are any concerns, the patient will be brought into EACU. Appointments can be made on the same day or for future dates.
- Patients who cannot come to EACU are sent to their GP.
- All patients brought back to EACU have a further photo taken.
- All patients admitted have a further photo.
- Extra photos can be requested anytime from ISLA.
- Patient advised that any time prior to seeing the surgeon before 6 weeks, to contact us if they feel there are any issues regarding wounds. An additional link is sent to be reviewed. If necessary, they can then be seen in EACU.

For those patients who are unable to use ISLA (no smartphone), we tell them to contact us via phone if they have any concerns regarding wounds. If any concern on discharge, we will bring patients back to EACU as a planned appointment for bloods and wound check 1 week after discharge.