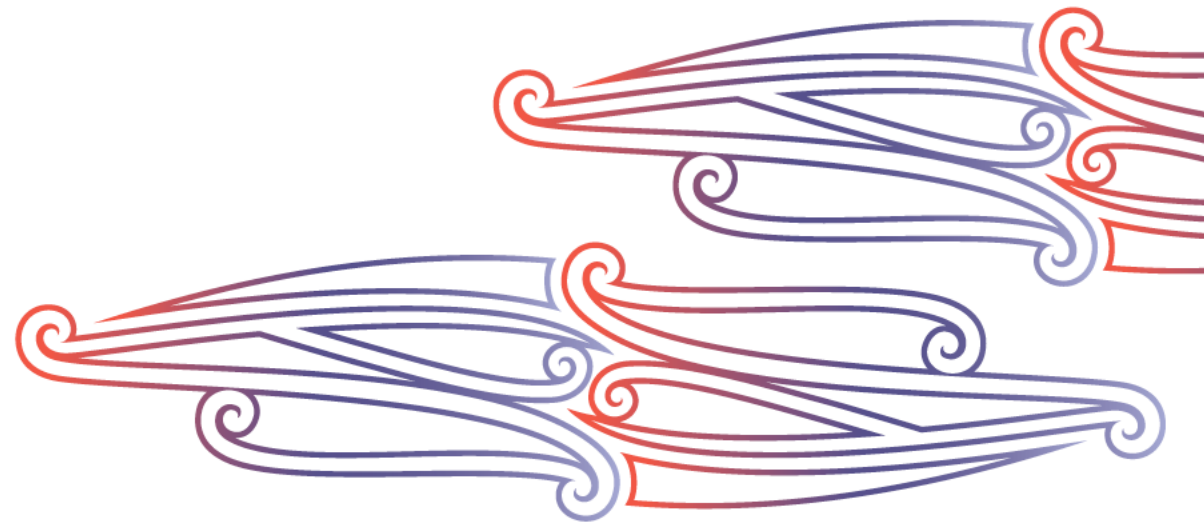




HEALTH QUALITY & SAFETY
COMMISSION NEW ZEALAND
Kupu Taurangi Hauora o Aotearoa

Surgical site infection improvement programme (SSIIP) champions webinar 31 May 2022



Agenda

Time	Item	Presenter
1.00 pm	Opening karakia Welcome	Jeanette Bell – Project manager Amanda Wood – Infection prevention and control (IPC) specialist
1.05 pm	Data checking in national monitor	Michelle Taylor – Clinical nurse specialist (CNS) national monitor, Canterbury district health board (DHB)
1.20 pm	Revision surgery case studies	Arthur Morris – SSIIP clinical lead Amanda Wood
1.35 pm	Orthopaedic reporting using variable life-adjusted display (VLAD) charts	Ruth Barratt – IPC specialist
1.50 pm	Updates and reminders	Amanda Wood
1.55 pm	Closing karakia	Jeanette Bell

Reviewing data

1. Log into the national monitor; your home page will open
2. Reports are:
 - QCK: highlight areas of potential incorrect data entry
 - DOR: all results for that data point for orthopaedic procedures
 - DCR: all results for that data point for cardiac procedures
 - Surgeries: tables and graphs of the data for that data point
 - HQSC: line listing of all forms and all the data within those forms as a download.

Pinned reports

- [DCR - Cardiac adult AB dose; current quarter](#) → Surgeries, Rachele Allan
- [DCR - Cardiac infection and microbiology; current quarter](#) → HQSC cardiac report, Rachele Allan
- [DOR - Orthopaedic AB timing; current quarter](#) → Surgeries, Rachele Allan
- [DOR - Orthopaedic infection and microbiology; current quarter](#) → HQSC orthopaedic report, Rachele Allan
- [QCK - Cardiac AB dose pre-op <=> QSM or review recommended](#) → Surgeries, Rachele Allan
- [QCK - Orthopaedic Bilateral Procedures](#) → Surgeries, Rachele Allan
- [QCK - Orthopaedic SSI rate; cumulative](#) → Surgeries, Rachele Allan

Reviewing data

3. Click on the name of the report where there may be issues where there may be issues

Pinned reports

- [QCK - Cardiac AB dose pre-op <> QSM or review recommended](#)
→ Surgeries, Rachele Allan
- [QCK - Orthopaedic Bilateral Procedures](#)** → Surgeries, Rachele Allan
- [QCK - Orthopaedic SSI rate; cumulative](#) → Surgeries, Rachele Allan

4. Review the data

Data

	Left	Right	ALL
Date	Number of procedures	Number of procedures	Number of procedures
Q4 2021	0	1	1

Correcting data

5. Click on the underlined number; the data for this form (or forms) will open
6. Find the form number or NHI and copy it
7. Open the SSI data collection forms and find your form

QCK - Orthopaedic Bilateral Procedures (Surgeries)

01-Oct-2021 to 31-Oct-2021

Report parameters

Left	Right	ALL							
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>							
Patient	DHB	NHI	Surgery Identifier	Age	Date of operation	Category	Procedure code	Procedure	
Create data collection forms <input type="button" value="Choose"/>									
<input type="checkbox"/>									
<input type="checkbox"/>	<input checked="" type="checkbox"/> Not recorded	Canterbury DHB	ZZZ7070	hqscDHB/72331	21y	02-Oct-2021	Hip Procedures	4931900	Total arthroplasty of hip, bilateral

Data Collection Forms

Page 1 of

<input type="checkbox"/>	Form ID	Form	DHB	Patient	Procedure date
<input type="checkbox"/>				zzz707d	
<input type="checkbox"/>	72331	HQSC Orthopaedic > 04/2019	Canterbury DHB	ZZZ7070	02-Oct-2021 00:00
<input type="checkbox"/>	72330	HQSC Orthopaedic > 04/2019	Canterbury DHB	ZZZ7070	02-Oct-2021 00:00

Correcting data

8. Open the form that is the issue
9. Fix the incorrect data and save the missing form again
10. Send the form back to the national monitor

Before Correction

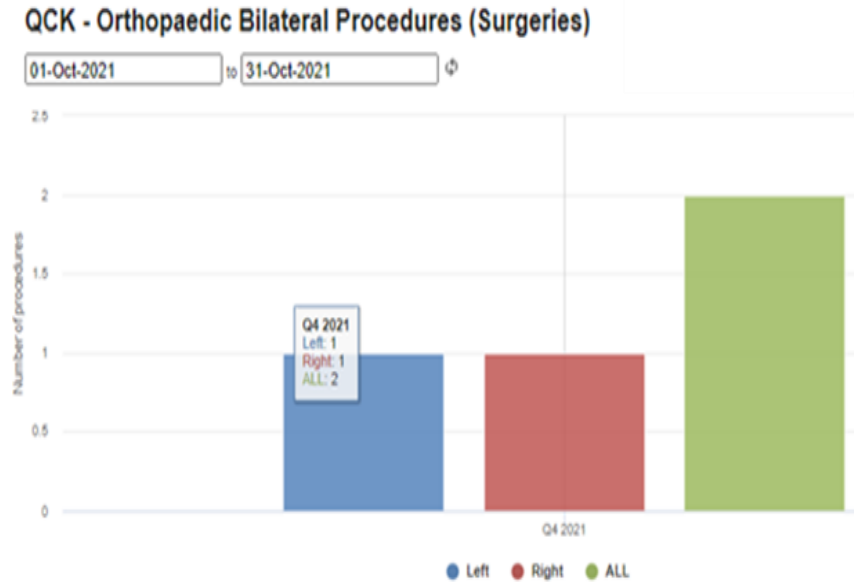
Date of Procedure:	02-Oct-2021
Procedure Code/Description:	Total arthroplasty of hip, unilateral (4931800)
Location of Procedure:	<input checked="" type="radio"/> Left <input type="radio"/> Right <input type="radio"/> Unknown

After Correction

Date of Procedure:	02-Oct-2021
Procedure Code/Description:	Total arthroplasty of hip, bilateral (4931900)

Correcting data

11. Go back to the national monitor and re-run or refresh the report
12. Review and correct other QCK reports in the same way



Common data issues

- Unilateral versus bilateral
- Age
- Infection without all data completed
- Superficial infection after 30 days



Revision surgery case studies

- For information contact SSIIP@hqsc.govt.nz



Using the SSI orthopaedic monitoring tool (VLAD report)

Purpose of the report

- Developed as a Health Quality & Safety Commission (the Commission) requirement for moving to orthopaedic light surveillance
- A tool to monitor orthopaedic SSIs in your DHB
- Provides SSI risk information in addition to the quarterly SSIIP and quality and safety marker dashboard reports
- A trigger tool that helps detect an increase in SSI risk
- Displays a visual coloured status box that reflects the current risk of an increase in SSI for each DHB.



Report components

- The report is called the **SSI orthopaedic VLAD chart**
- It consists of two windows:

Infections

- DHB drop-down panel on the left
- Brief 'at a glance' explanation of the chart
- VLAD chart and coloured status box with 'what to do' section
- CSV data download files.

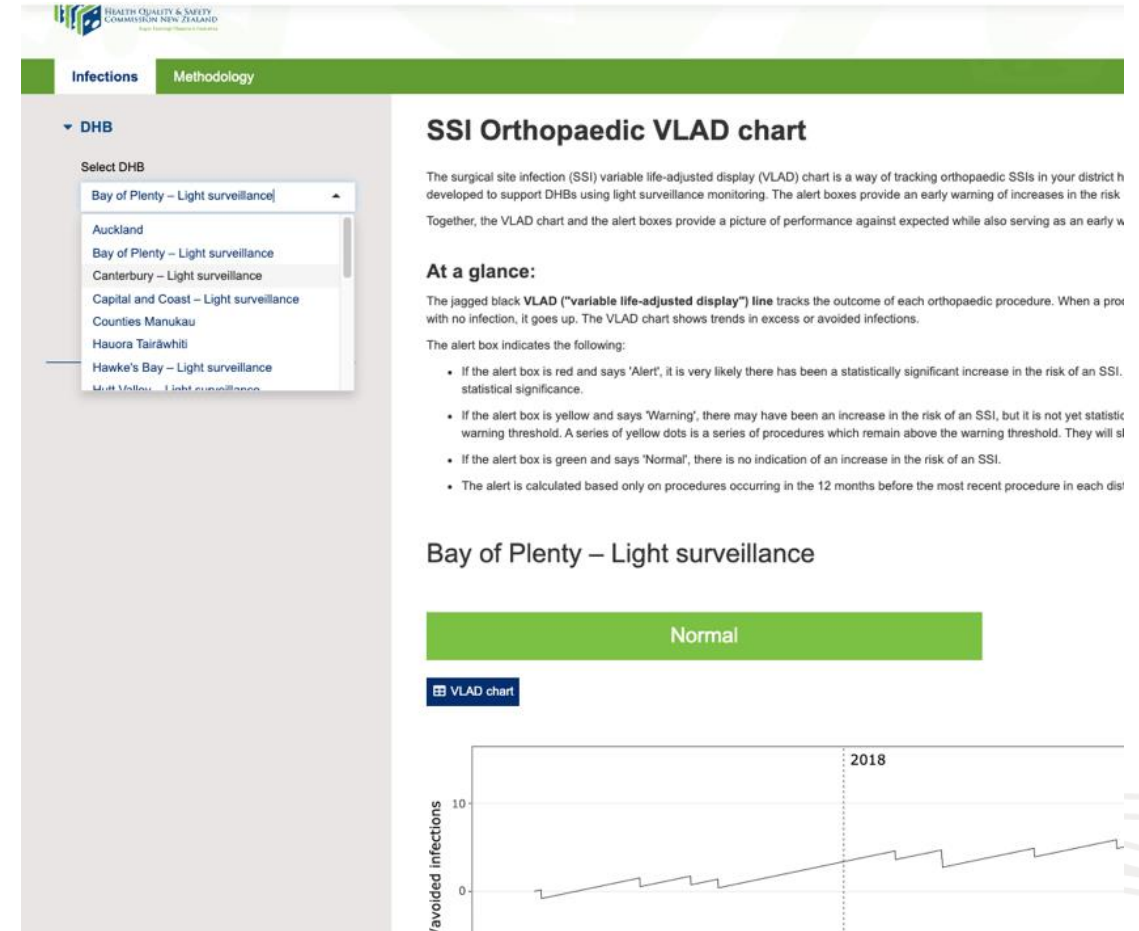
Methodology (three tabs)

- Overview of how the chart works
- Technical notes – a detailed description of the statistical methodology
- Related publications.



Viewing your DHB VLAD chart

- Click on 'Infections' if log-in has not opened in this window
 - Choose your DHB from the drop-down box on the left-hand panel
 - Enter the password and click on the blue box 'show chart' under password
- Your DHB chart will appear
 - You can also download a CSV file of the data (top right-hand corner of the page)





▼ DHB

Select DHB

Auckland

Enter password

Show chart

DHB drop-down box and password

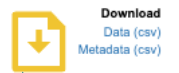
Surgical site infection orthopaedic variable life-adjusted display chart

The surgical site infection (SSI) variable life-adjusted display (VLAD) chart is a way of tracking orthopaedic SSIs in your district health board (DHB). It shows **cumulative expected against observed infections** in your DHB. It was developed to support DHBs using both full and light surveillance monitoring. The model for DHBs using full surveillance monitoring is risk-adjusted while the model for DHBs using light surveillance monitoring is not. The status boxes provide a warning or alert of increases in SSI risk. Together, the VLAD chart and the status boxes give a picture of performance against expected while also serving as a system to detect an increase in SSI risk.

At a glance:

The jagged black **VLAD line** tracks the outcome of each orthopaedic procedure. When a procedure results in an infection, the VLAD line goes down and when there is a procedure with no infection, it goes up. The VLAD chart **shows cumulative excess or avoided infections**. The **status box** indicates the following:

- If the status box is red and says 'Alert', there has been a statistically significant increase in SSI risk. The red dot on the chart marks when the cumulative increase in SSI risk exceeded the threshold for statistical significance.
- If the status box is yellow and says 'Warning', there may have been an increase in SSI risk, but it is not yet statistically significant. The yellow dot on the chart marks when the cumulative increase in SSI risk exceeded the warning threshold. A series of yellow dots is a series of procedures that remain above the warning threshold. They will show as a yellow line. This is a period of time when the SSI risk is still increased.
- If the status box is green and says 'Normal', there is no indication of an increase in SSI risk.
- The status is calculated based only on procedures occurring in the 12 months before the most recent procedure in each DHB.



CSV data files

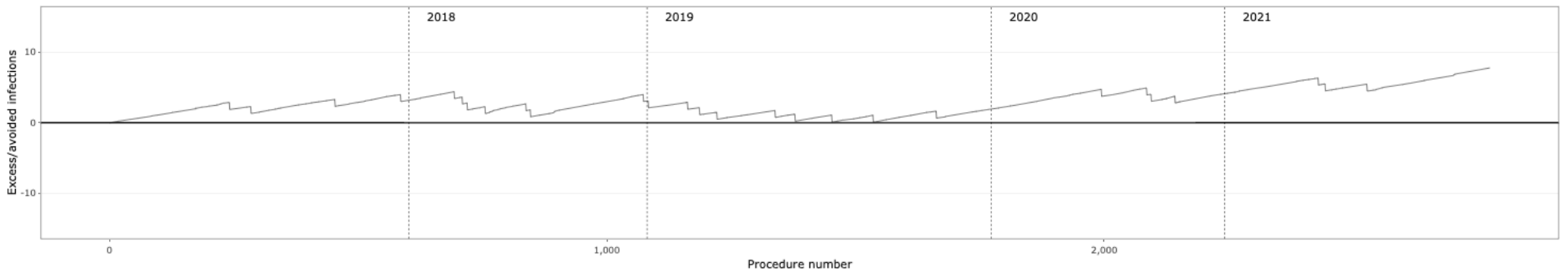
Auckland

Status box



Status box

VLAD chart



What to do:

- The status box above the chart will either be red, yellow or green.
- If the box is red, there has been a statistically significant increase in SSI risk. This is an opportunity to review your [SSI investigation tool](#) findings for common themes or gaps in process. The Commission's infection prevention and control team will be in touch to find out what support you need.
 - If the box is yellow, there may have been an increase in SSI risk, but it is not yet statistically significant. This is a signal to monitor your data closely.
 - If the box is green, there is no indication of an increase in SSI risk.

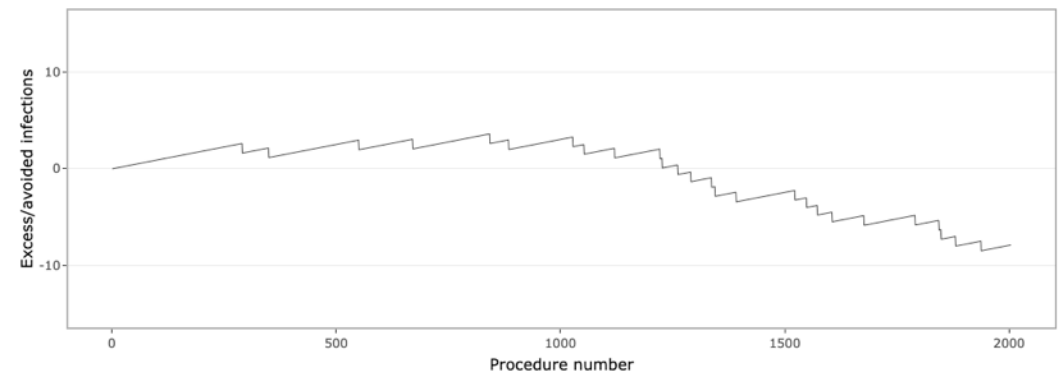
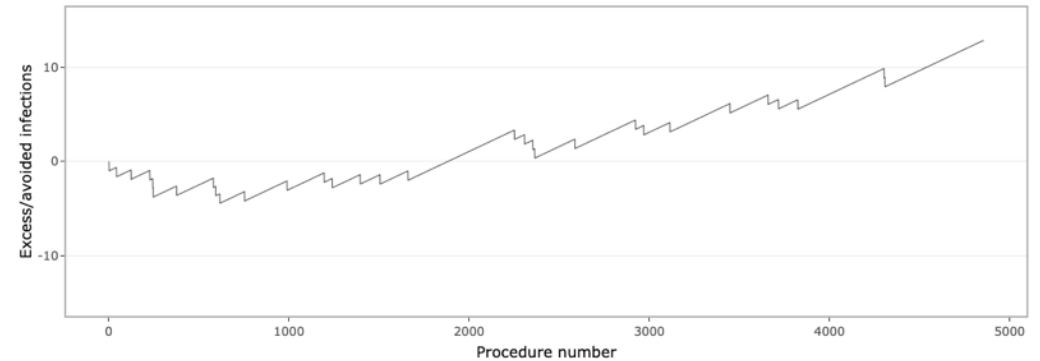
The VLAD chart: overview

- The SSI VLAD chart is a way of tracking orthopaedic SSIs in your DHB
- It shows **cumulative expected against observed infections** in your DHB
- It was developed to support DHBs using both full and light surveillance monitoring
- The model for DHBs using full surveillance monitoring is risk-adjusted, whereas the model for DHBs using light surveillance monitoring is not
- The status boxes provide a warning or alert about increases in SSI risk.



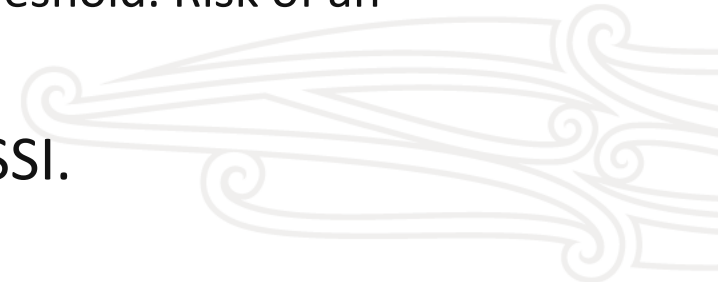
The VLAD chart: overview

- The jagged black **VLAD line** tracks the outcome of each orthopaedic procedure
- The VLAD line goes down when a procedure results in an infection and up when a procedure has no infection
- The VLAD chart shows **cumulative excess or avoided infections**
- The VLAD chart uses a 'CUmulative SUM' (CUSUM) chart to trigger the warnings and alerts, which are displayed as a coloured status box.



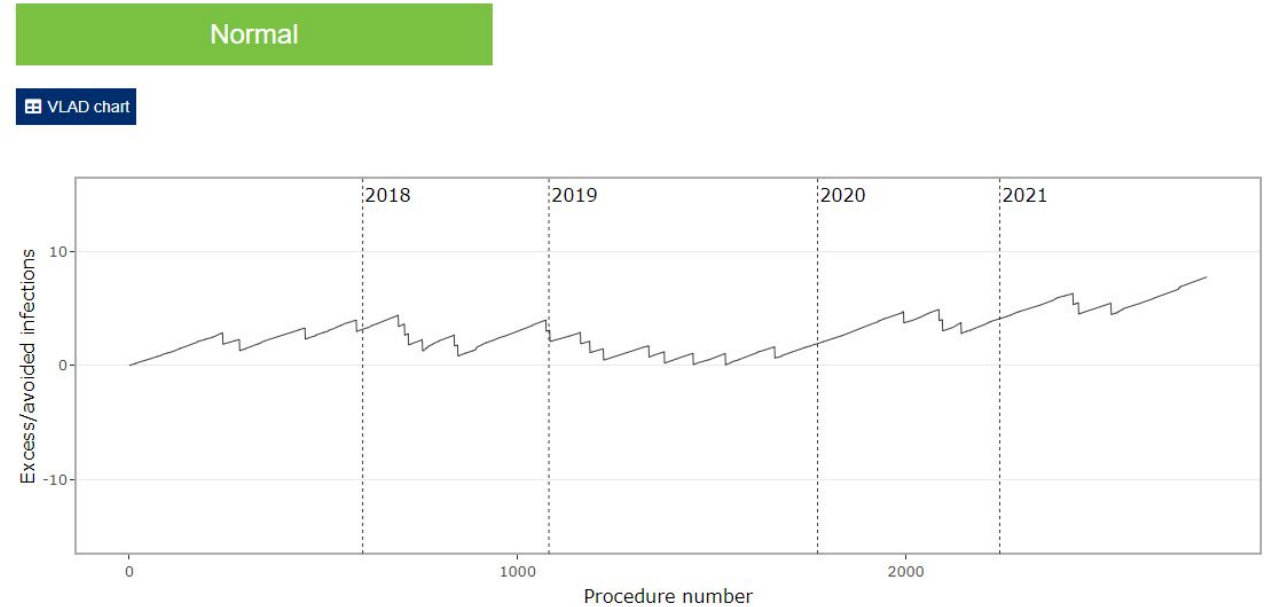
The VLAD chart: warnings and alert boxes

- Status is based on procedures only in the 12 months before the most recent procedure in each DHB
- Red 'alert' box: very likely the SSI risk has statistically significantly increased
 - Red dot: the procedure that exceeded the threshold for statistical significance
- Yellow 'warning' box: risk of an SSI may have increased; not yet statistically significant
 - Yellow dot represents the procedure that exceeds the warning threshold
 - Yellow line: series of procedures that remains above the warning threshold. Risk of an SSI remains increased
- Green 'normal' box: no indication of an increased risk of an SSI.



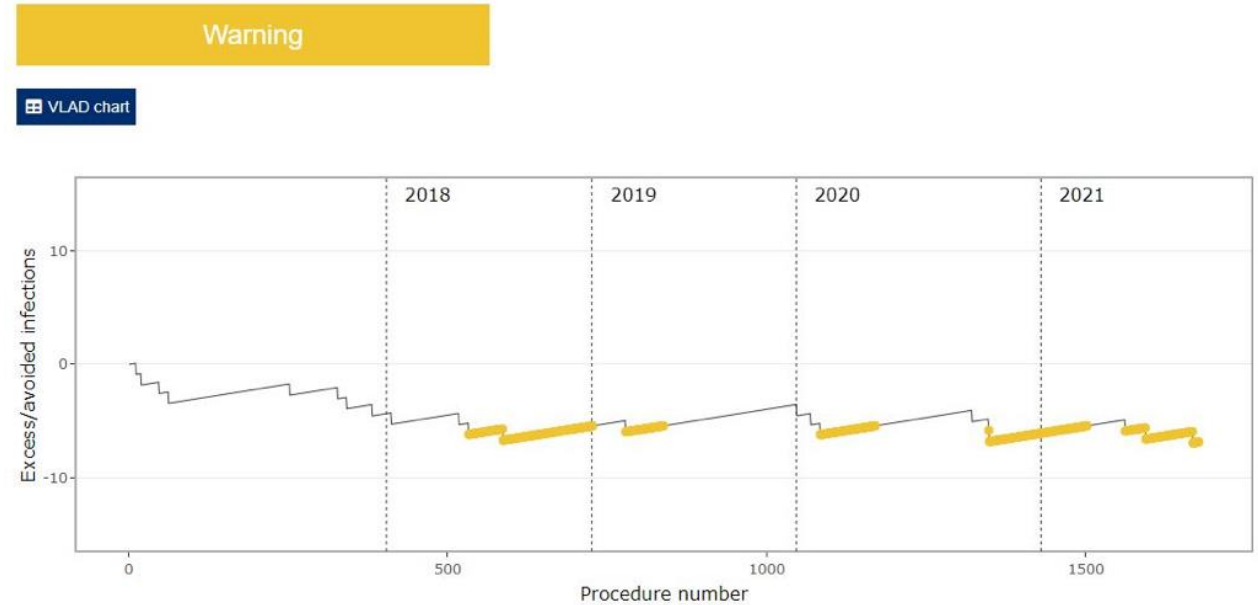
Interpreting the chart

- Each point on the jagged line is a procedure. If the line goes up, the procedure has not resulted in an infection; if it goes down, an infection occurred.
- In this example, the jagged line stays mostly around the centre, and a green 'normal' status box is displayed.



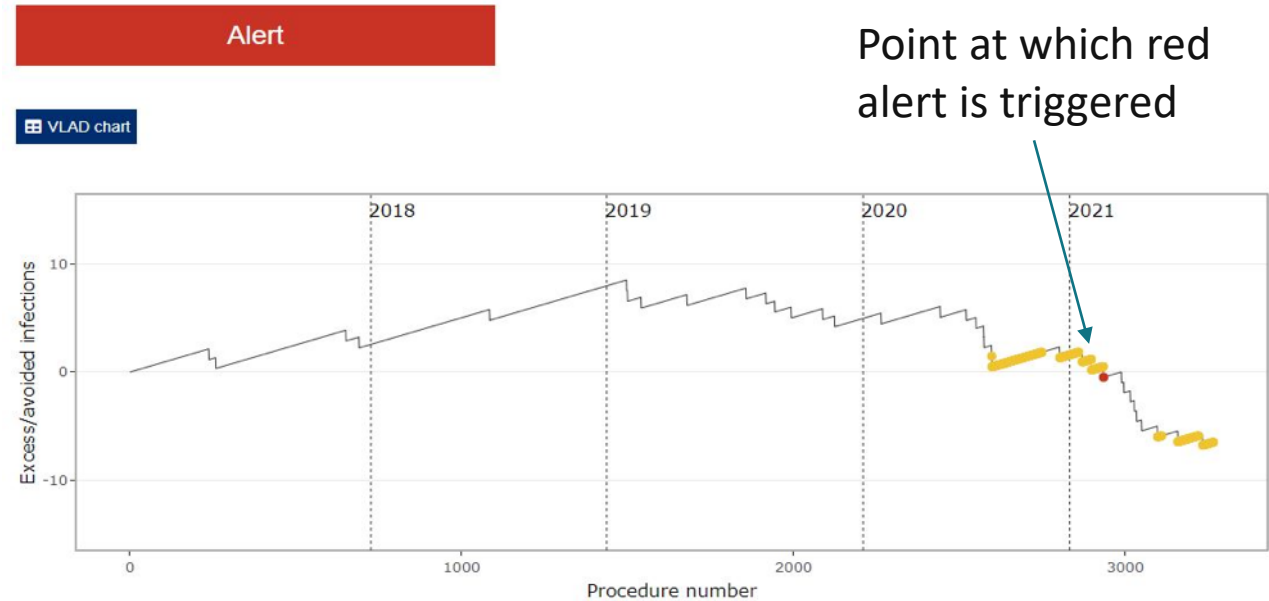
Warnings and alerts

- When the downward trend on the jagged line reaches a pre-determined point for that DHB, a amber **warning** status box is shown.



Warnings and alerts

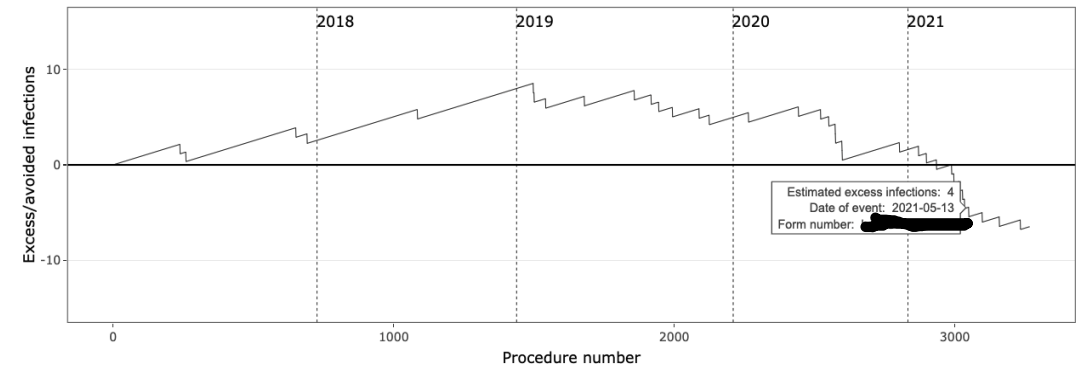
- If the jagged line continues to track down after an amber warning, at a pre-determined point for that DHB, the warning becomes a red **alert** status box.



Viewing the form ID of specific procedures

- Enter the password provided by your DHB SSI champion or the Commission
- Click 'Show chart'
- Hover over points on the chart
- They will now show the form ID.

VLAD chart



What action should I take?

- View the chart each quarter; check the colour of the box above the graph
- If the box is green, the SSI numbers are ‘within normal limits’: no indication of an increased risk of SSI
- If the box is yellow, SSIs may have increased compared with baseline. This is a signal to monitor your data closely.



Alerts (red status box)

Alert

VLAD chart

- If the box is red, the risk of SSI has increased by 50 percent or more compared with baseline
- This is an opportunity to review your SSI investigation tool findings for common themes or gaps in process
- The Commission's IPC team will be in contact to find out what support you need.



Upcoming dates

- 1 June 2022: Newsletter publication
- 1 July 2022: submit SSI investigation tool quarterly summary: <https://www.hqsc.govt.nz/resources/resource-library/surgical-site-infection-ssi-investigation-tool/>
 - In this summary, list any SSIs that have been investigated using the tool in April, May and June
- 28 July 2022: Quarterly SSI investigations meeting 1.00 pm

