

Guideline

Health Service Directive

Guideline QH-HSDGDL-033-1:2013

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Supersedes: Version 1.0

Health Service Directive Patient Safety

Guideline for Variable Life Adjusted Display and other National Patient Safety Indicators

1. Purpose

This Guideline supports and provides recommendations to Hospital and Health Services (HHSs) regarding best practice for meeting the Patient Safety Health Service Directive's mandatory requirements for reviewing and reporting on Variable Life Adjusted Display (VLAD) and other National Patient Safety Indicators (National PSIs).

2. Scope

This Guideline applies to Queensland Health employees, agents, volunteers, contractors, consultants and managed service providers working for the Divisions within the Department of Health, Agencies and Business Units and for the Hospital and Health Services (including Visiting Medical Officers).

3. Guideline

VLAD – description and background

- VLAD is a screening tool applied to clinical indicators to assist in identifying potential areas of concern, or strengths to improve patient safety and quality of care. VLAD attempts to improve Queensland Health's understanding of causation and to determine whether corrective action is necessary.
- VLAD involves a flagging process which occurs when a pre-specified level of variation is reached, as measured by three Flagging levels (see: Table 1 below). When a VLAD flag occurs at a particular point, it suggests that over time there have been more (or less) patients experiencing the outcome than expected, up until the particular patient. The way to view this graph is to initially look for flags and then look backwards from the flagging point to identify the patients to review.



Table 1: Flagging levels by indicator group and level of variation

Flag level	Variation from the state average			
	Group A Indicators	Group B Indicators	Group C Indicators	Group D Indicators
Level 1	10%	30%	50%	100%
Level 2	20%	50%	75%	125%
Level 3	30%	75%	100%	150%

Note: A complete listing of indicators and groupings are in Appendix 1: VLAD indicators and Flagging levels

- Flagging levels can occur at both an upper or lower level. An upper flag (for example level 3) indicates that a hospital’s outcome rate is lower than the state outcome rate whereas a lower level flag (for example level 1) indicates the hospital rate is higher than the state outcome rate.

3.1 VLAD review model

- VLAD is a quality monitoring tool and should be interpreted as such. It is designed to flag issues for HHSs for further review.
- The occurrence of a flag should not be immediately interpreted as indicating good or bad performance. This is because there are many possible explanations as to why the VLAD has flagged, one reason being simply chance.
- Where review is initiated, it is recommended the Pyramid Model of investigation be adopted (see: Figure 1). The Pyramid Model of investigation recommends a hierarchical approach to identify causation. Under this Model, factors at the base of the pyramid are more likely to be causes than factors at the apex.

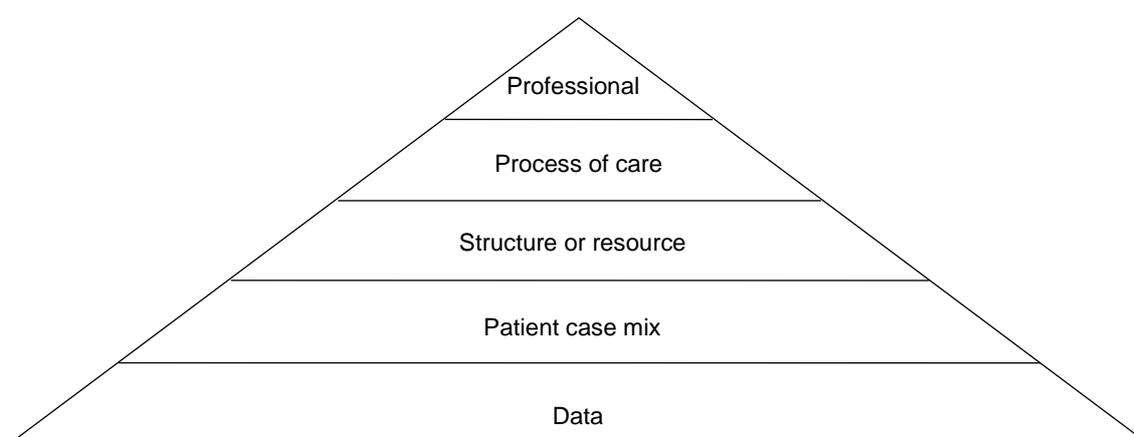


Figure 1: Pyramid model of investigation

3.2 VLAD graphs and notification reports

- VLADs are generated on a monthly basis by the Patient Safety and Quality Improvement Service (PSQIS), Clinical Excellence Queensland (CEQ), Queensland Health using Queensland's hospital admitted patient data, and perinatal data. Any delay in the submission of data from hospitals influences the currency of VLADs. VLADs are published via the VLAD Clinical Monitoring System (VLAD CM).
- Access to VLAD CM requires approval from the relevant HHS VLAD Authorising Officer (VAO).
- A monthly notification report listing new flags is sent by VLAD CM via email to the Chief Executive of the relevant (HHS CE), VAO, VLAD Hospital Coordinator (VHC) and other authorised users of VLAD CM. The notification will also list overdue VLAD responses.

3.3 Notification report flagging rules

- In the case of multiple flags triggered for the same indicator in the same reporting period, only the highest level flag is notified to the hospital via a notification report, as this review will include findings for subordinate level flags.
- In the case of a new flag and a higher level flag in the previous reporting period, the new flag will not be notified to the hospital in the notification report, as it is expected the investigation for the earlier higher level flag will be thorough and include most of the cases that would be considered in a new investigation.

3.4. Response

- In response to a VLAD notification report a hospital is required to conduct a review and submit a response detailing all aspects of the review considered including details of cases reviewed, any issues identified and an action plan to correct an unfavourable result or to maintain a positive result.

3.5. VLAD levels requiring a response

- Mandatory
 - As described in the Directive, lower level 3 Flags require a review and response submitted within 30 days.
- Recommended
 - Lower level 1 and 2 Flags and all upper level flags do not require a review to be undertaken.
 - These Flags will be included in the notification report as non-reportable flags for a month following release.
 - A review into these Flags may identify opportunities for improvement leading to a reduction in the likelihood of progression to a lower level 3 Flag.



The VLAD CM information system will allow the submission of a response to these flags.

3.6. National Patient Safety Indicators

Hospitals with statistically significant variation against National PSIs are required to submit a review response to the PSQIS

- National PSIs include the performance indicators published by the Australian Institute of Health and Welfare, and form part of The Australian Health Performance Framework¹. The Department of Health monitors indicators aligned with the national indicators including the following:
 - Hospital standardised mortality ratio - quarterly
 - Death in low mortality diagnosis related groups – quarterly
 - In-hospital mortality rates for specific conditions – monthly using VLAD methodology
 - Unplanned hospital readmission rates for specific conditions – monthly using VLAD methodology.
- The PSQIS will notify HHSs when a significant variation has occurred and provide assistance in review methodology.
- It is recommended the VLAD review model in Figure 1, above is followed when undertaking an investigation into variation.

3.7. Timeframes for response

- As described in the Directive, a HHS should review and complete a response to a mandatory flag or National PSI within 30 days of notification.
- The response should be approved by the VAO before being submitted via VLAD CM.

3.8. Lower level 3 response

- It is recommended that a lower level 3 review considers outcomes of previous reviews of an indicator.
- For example, all cases considered in previous lower level 2 reviews and lower level 1 reviews, (if undertaken) and subsequent cases leading up to the lower level 3 Flag should be considered for a lower level 3 review. Progress on action plans from lower level 2 Flags should also be reviewed and documented.

¹ Accessible here: https://www.aihw.gov.au/getmedia/1c95574c-ac07-4126-8b7c-31eb29d9b381/OOS318_Attachment-1.pdf.aspx



3.9 Lower level 3 VLAD and national patient safety indicators response and escalation

- All responses to lower level 3 Flags and significant variation against National PSIs are reviewed by the VLAD Committee² which meets on a monthly basis.
- The VLAD Committee clinically reviews responses for adequacy and action plans. If concerns are raised, the VLAD Committee will request further information or actions from a HHS to be reviewed at a subsequent VLAD Committee meeting.
- Where a VLAD and other response/s, or request for further information from a HHS has not been received, the following escalation strategy is employed:
 - First request: forward a memorandum to the HHS CE, (cc the VAO).
 - Second request: table the matter at the relationship management meeting
 - Third request: brief the Director-General – attach a memorandum from the Director-General to the HHS CE.
- Issues unable to be resolved by the VLAD Committee are escalated to the Deputy Director-General, CEQ, Department of Health.

If a lower level 3 Flag is solely attributable to a structure or resource issue, the VLAD Committee can approve that a hospital will not be required to undertake a review and submit a response for the lower level 3 Flags within the subsequent 12 months.

3.10. Suggested responsibilities–Department of Health

Table 2:

Role	Responsibilities
VLAD Committee	<ul style="list-style-type: none"> • Assess lower level 3 Flags and other response/s to determine whether a clinically appropriate action plan that addresses all review findings is included
	<ul style="list-style-type: none"> • Endorse or request further feedback in relation to responses
	<ul style="list-style-type: none"> • Communicate the outcome of the review of responses to the HHS CE, VAO and VHC
	<ul style="list-style-type: none"> • Manage the escalation process related to non-compliance of a HHS
	<ul style="list-style-type: none"> • Based on the review of responses and resulting information, provide advice to the Systems Team on the addition, suspension or removal of VLAD clinical indicators

² The VLAD Committee is a committee formed under the Department of Health

	<ul style="list-style-type: none"> Based on the review of responses, provide advice to the Systems Team on significant definitional changes to VLAD clinical indicators
Systems team PSQIS, CEQ, Department of Health (Systems Team)	<ul style="list-style-type: none"> Analyse and disseminate indicators monthly
	<ul style="list-style-type: none"> Notify the HHS of new and outstanding flagged indicators on a monthly basis
	<ul style="list-style-type: none"> Manage VLAD CM which disseminates VLAD graphs and houses responses
	<ul style="list-style-type: none"> Assess responses with regard to correct interpretation of statistical methodology including review of appropriate patient charts
	<ul style="list-style-type: none"> Assess responses and determine whether an appropriate review is set out in the response (all levels of the pyramid model of investigation were considered)
	<ul style="list-style-type: none"> Assist with data analysis queries relevant to VLADs and National PSIs
	<ul style="list-style-type: none"> Manage VLAD indicator review and development
	<ul style="list-style-type: none"> Collate plain English versions of lower level 3 responses to be included in public reporting
	<ul style="list-style-type: none"> Provide VLAD education and ongoing support to all VLAD users in HHSs
	<ul style="list-style-type: none"> Provide secretariat support for the VLAD Committee

3.11. Suggested responsibilities – Hospital and Health Services

The following suggested roles and responsibilities in Table 3 should support the ability of HHSs to comply with the Directive and National PSI mandatory requirements.

(See also Appendix 2: VLAD business process map guideline which outlines a suggested process for coordination of the VLAD process within a HHS.)

Table 3:

Role	Responsibilities
CE, HHS The HHS or facility's safety and quality committee	<ul style="list-style-type: none"> Ensure appropriate staff are delegated responsibility to complete a thorough review and provide an acceptable VLAD and National PSI response/s within stipulated timeframes
	<ul style="list-style-type: none"> Appropriately delegate a VAO who is accountable to the HHS CE.
	<ul style="list-style-type: none"> Include VLAD and other National PSI reviews as a standing item on the monthly safety and quality committee agenda
	<ul style="list-style-type: none"> Review responses of flagged indicators
	<ul style="list-style-type: none"> Assess the information reported outlines that an appropriate level of investigation has occurred (i.e. all levels of the pyramid model of

Role	Responsibilities
	investigation considered (Figure 1))
VLAD Authorising Officer (VAO) For example, Executive Director of Medical Services, Clinical Governance Director	<ul style="list-style-type: none"> • Assess the information reported outlines the formulation of an appropriate action plan • Incorporate the actions from the responses of flagged indicators and update the HHS's Clinical Risk Management Plan on progress of actions • Approve response prior to submitting to ensure a thorough investigation was undertaken and an appropriate action plan has been identified to address all areas of concern raised • Ensure that HHS staff participate in the preparation of responses such that responses are ready for submission within the stipulated timeframes • Ensure an action plan is fully implemented and an evaluation of the action plan is undertaken to ensure all identified issues are addressed • Advise the HHS CE on VLAD review findings and the action plan, subsequent progress of actions and when the action plan is fully implemented and evaluated • Approve access to VLAD CM for individuals within a HHS • Appropriately nominate the VHC within the HHS • Note: The VAO is accountable to the HHS CE for all approving responsibilities listed above, for example, approve access to VLAD CM, approve the response.
VHC For example, the Quality Coordinator	<ul style="list-style-type: none"> • Ensure appropriate cases are identified and charts are provided to appropriate professionals for review • Ensure appropriate professionals involved in a review (i.e. a clinician and a Health Information Management Services Clinical Coder be consulted at a minimum) • Assist professionals in undertaking a thorough review (i.e. all levels of the pyramid model (Figure 1) are considered) • Assist professionals in identifying an appropriate action plan that addresses all areas of concern raised • Ensure the response is approved by VAO prior to submitting • Provide education and relevant information pertaining to VLADs to staff within the HHS
Health	<ul style="list-style-type: none"> • Ensure that all International Statistical Classification of Diseases and Related Health Problems, Australian Modification (ICD-10-AM)

Role	Responsibilities
Information Management Services Clinical Coder	codes and all Australian Classification of Health Interventions (ACHI) codes are allocated, to each episode of care under review, according to the Australian Coding Standards (ACS).
	<ul style="list-style-type: none"> • Submit to the VHC, any variation in clinical coding practice or clinical coding convention identified within the episodes of care reviewed.
	<ul style="list-style-type: none"> • Discuss findings of the clinical coding review with other key members of the Health Information Management Services, Department of Health.
Clinician / reviewer	<ul style="list-style-type: none"> • Co-ordinate the compilation of a response detailing an accurate representation of the review undertaken including all aspects considered, issues identified and the action plan
	<ul style="list-style-type: none"> • Submit approved responses
	<ul style="list-style-type: none"> • Actively participate in review of flagged indicators and determine action plan of all relevant flags
	<ul style="list-style-type: none"> • Ensure the review conducted is thorough (i.e. all levels of the pyramid model (Figure 1) are considered)
	<ul style="list-style-type: none"> • Notify the VHC of the review outcome
	<ul style="list-style-type: none"> • Table findings from reviews at relevant clinical departmental meetings



4. Supporting and related documents

Authorising Health Service Directive

Patient Safety Health Service Directive QH-HSD-033:2014

Forms and templates

Appendix 1: VLAD Indicators and flagging levels

Appendix 2: VLAD business process map Guideline

5. Definition of terms used in this Guideline

Term	Definition / explanation / details	Source
Variable Life Adjusted Display	A statistical methodology used to monitor patient outcomes to assist in identifying possible areas of concern or strength for safety and quality of care. It is to be interpreted and viewed with the intention to understand causation and to determine whether corrective action is necessary.	
VLAD Clinical Monitoring System	An electronic information system that disseminates VLAD graphs, notification reports and captures HHS reviews/responses to VLAD flags. https://psp.bnc.health.qld.gov.au/cas/main/login.aspx	
Flag	A point on the VLAD, identifying a predetermined level of variation has been reached i.e. more (or less) patients have experienced an outcome than expected over a period of time.	
Notification report	A list of new and previous flags that have occurred within a hospital requiring a VLAD response to be submitted	
Response	Feedback from a hospital detailing what was considered in the review, review findings and actions	
Systems Team	The Team within the PSQIS responsible for production of the VLAD graphs, maintenance of VLAD CM and the first stage review of VLAD responses.	

National Patient Safety Indicators	National safety and quality indicators, managed by Australian Commission on Safety and Quality in Healthcare.	Australian Commission on Safety and Quality in Healthcare. https://safetyandquality.govcms.gov.au/our-work/indicators/core-hospital-based-outcome-indicators
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6. Approval and implementation

Guideline custodian

Executive Director, PSQIS, CEQ.

Approving officer:

Deputy Director-General, CEQ, Department of Health

Approval date: 20/01/2021

Effective from: 31/01/2021

7. Version control

Version	Date	Prepared by	Comments
1.0	01/07/2013	PSQIS	First issue
2.0	31/01/2021	PSQIS	Updated email addresses, phone numbers and the name Patient Safety Unit, to Patient Safety and Quality Improvement Service. Minor clerical amendments in line with the Queensland Health Editorial style guide 2019. Remove mandatory requirement for review of lower level 2 Flags

Appendix 1 VLAD Indicators and Flagging Levels

Flagging levels	Indicator and outcome
Indicator Group A (Flags triggered at 10%, 20%, 30% variation from state average)	Selected primip (assisted births) episiotomy or 3rd and 4th degree perineal tears (public facilities)
Indicator Group B (Flags triggered at 30%, 50%, 75% variation from state average)	Acute myocardial infarction readmission
	Fractured neck of femur in-hospital mortality
	Fractured neck of femur complications of surgery
	Pneumonia in-hospital mortality
	Stroke in-hospital mortality
	Selected primip caesarean section (private mothers in public facilities)
	Selected primip caesarean section (public patients in public facilities)
	Selected primip induction of labour (public facilities)
	Selected primip instrumental delivery (public facilities)
Indicator Group C (Flags triggered at 50%, 75%, 100% variation from state average)	Abdominal hysterectomy complications of surgery
	Acute myocardial infarction longstay
	Acute myocardial infarction in-hospital mortality
	Colorectal carcinoma complications of surgery
	Depression longstay
	Depression readmission
	Heart failure longstay
	Heart failure readmission
	Hip replacement (primary) complications of surgery
	Hip replacement longstay
	Hip replacement readmission
	Knee replacement (primary) complications of surgery
	Knee replacement longstay
	Knee replacement readmission
	Laparoscopic cholecystectomy longstay
	Laparoscopic cholecystectomy readmissions
	Prostatectomy complications of surgery
	Schizophrenia longstay
	Schizophrenia readmission
	Selected primip (unassisted births) episiotomy or 3rd and 4th degree
Vaginal hysterectomy complications of surgery	
Indicator Group D (Flags triggered at 100%, 125%, 150% variation from state average)	Paediatric tonsillectomy and adenoidectomy long stay
	Paediatric tonsillectomy and adenoidectomy readmission

Appendix 2: VLAD Business Process Map Guideline

