Bundaberg Hospital
Outcomes of Analysis of Clinical Incidents reported into Prime CI
(Queensland Health Clinical Incident Information System)
from 2005 to 13th February 2009

by
Patient Safety Centre

The Director General requested the Patient Safety Centre (PSC) undertake analysis of clinical incidents reported into PRIME CI (Queensland Health Clinical Incident Information System) at Bundaberg Hospital from 2005 to 13 February 2009.

The Chief Executive Officer – CHI requested a high level analysis be undertaken as a priority to determine if Bundaberg Hospital was statistically different to the rest of Queensland in relation to:

1. Incident management/status.
2. Feedback to reporters by line managers.
3. Corrective actions.
4. Type of incident analysis conducted.

Important points to note:

- The analysis below has been carried out based solely on documentation recorded by Queensland Health staff in PRIME CI. No external information sources have been used and no process for according procedural fairness has been undertaken.
- Data was extracted only from specific fields within PRIME CI utilised to document explicit actions. The PSC did not undertake a qualitative review of other system fields to determine if feedback had been documented elsewhere in the system.
- During the time period covered in this analysis, there have been successive functionality improvements in PRIME CI and the introduction in June 2006 (updated in 2008) of the Clinical Incident Management Implementation Standard (CIMIS). This had led to some difficulties in applying consistent interpretation of data across the reporting period. The analysis has taken this into consideration and constraints noted.
- The SAC rating, a 3 tiered rating system was introduced in PRIME CI in December 2006 and indicates the consequence to the patient (level of harm).
- Prior to the introduction of the SAC rating, incidents were risk rated using a 5 tier rating system (from low to extreme risk). Legacy items, where the current SAC field is null, have been grouped together as being “Risk Rated”. Detailed statistical analysis was not performed on this group separately.
- The SAC rating is initially entered by the Reporting Officer and is then reviewed by the Line Manager who can either agree with the reporter’s rating or up/down grade the code as applicable. For the purpose of this analysis, the current SAC rating has been used (ie the SAC rating following review by the Line Manager).

- Any number of Line Managers (eg Nurse Unit Manager, Patient Safety Officer, Quality Manager) can document information into Line Manager Review screens within PRIME CI. For the purpose of this analysis, the presence of any Line Manager entry has been used to indicate Line Management Review (ie there was no analysis to determine the type or number of Line Managers who may have participated in the review).
- Bundaberg hospital commenced implementation of PRIME CI on 31/08/2005 and advised that the implementation was completed on 16/10/2005.

Methodology:

- Data was extracted from the PRIME CI database into MS Excel by the PSC Data Analysis Team.
- PRIME CI data quality issues and constraints were identified by the PSC Data Analysis and PRIME Teams.
- Statistical analysis was conducted by a Queensland Health statistician (CPIC)
- The date of the incident reports extracted are known to range from December 2004 – 13 February 2009.

Findings:

Summary

Bundaberg Hospital was not statistically different from the rest of Queensland in:

- Percentage of incidents documented as “closed”;
- Percentage of SAC1 incidents with documented feedback to staff;
- Percentage of SAC 1 and SAC 2 incidents with documented corrective actions; and
- Percentage of SAC 1 and SAC 2 incidents with documented incident analysis.

Bundaberg Hospital was statistically different from the rest of Queensland in:

- Having a lower rate of feedback to staff regarding SAC2 and SAC3 incidents;
- Having a lower rate of documented corrective actions for SAC3 incidents; and
- Having a lower rate of documented incident analysis of SAC 3 incidents.

1. Analysis of incident management/status

Period of Analysis - Since inception through until 13th February 2009.

Bundaberg

- 3,245 incidents have been reported in PRIME CI at Bundaberg Hospital. Of the 3,245 incidents, 3,030 have been documented as being 'closed' (93%). 54 are currently documented as 'in process' and 161 are currently documented as 'open'.

Queensland (excluding Bundaberg)

- 186,458 incidents have been reported in PRIME CI at Queensland Hospitals (excluding Bundaberg). Of the 186,458 incidents, 173,165 have been documented as 'closed' (93%). 3,047 are currently documented as 'in process' and 10,246 are currently documented as 'open'.

Difference between Bundaberg & Queensland

- Bundaberg and Queensland had similar rates of incidents documented as 'closed'. These rates were not statistically different at the 99.9% level.

Important points to note:

- It is expected that a number of incidents will be 'open' or 'in process' given this analysis was taken at a certain point in time.
- All incidents are classified as 'open' until a line manager commences managing the incident in PRIME CI.
- The incident status automatically changes to 'In process' after one or more fields on Management Action Screens have been entered. The status will remain in this state until the Line Manager completes all mandatory fields and changes the status to 'closed'.
- PRIME CI allows Line Managers to modify the incident status as needed (that is to re-open a closed incident).

Issues

- Prior to July 2006, forcing functions did not exist within PRIME CI in relation to management actions. That is, it was possible for a line manager to document the incident as 'closed' prior to entering any other management actions.
- The status of 'In process' was implemented in July 2006.
- The application allowed Line Managers to continue to document information despite the status of 'closed'.

2. Analysis of feedback to reporters

Period of Analysis - Since inception through until 13 February 2009.

Bundaberg

- 3,030 incidents have been reported in PRIME CI and documented as 'closed' at Bundaberg Hospital. Of the 3,030 incidents documented as 'closed', it was documented that the staff involved had been provided feedback in 1,625 (54%) incidents.

- The percentage incidents where it was documented that staff involved had been provided with feedback increased with Severity Assessment Code (SAC) ratings. Six (6) SAC 1 events were identified at Bundaberg Hospital. Of the 6 SAC 1 events, managers documented that all staff involved had been provided with feedback, whilst SAC 2 and SAC3 events had 58% and 54% respectively.

Queensland (excluding Bundaberg)
- 173,165 incidents have been reported in PRIME CI at Queensland Hospitals (excluding Bundaberg) and documented as ‘closed’. Of the 173,165 incidents documented as ‘closed’, it was documented that staff involved had been provided with feedback in 107,113 (62%) incidents.
- The percentage of staff involved which had been documented as having been provided with feedback increased with SAC ratings. Of the 277 SAC 1 events, 229 (83%) documented that staff involved had been provided with feedback, whilst SAC 2 and SAC3 events had documented 78% and 64% respectively.

Difference between Bundaberg & Queensland
- Bundaberg had a statistically significantly lower rate of documented staff feedback overall when compared to the rest of the state. These rates were statistically different at the 99.9% level.
- Whilst documentation indicated that Bundaberg staff involved in the incident had been provided with feedback in 100% of all SAC1 incidents documented as ‘closed’, this rate was not statistically different to the state given the small numbers of SAC1 events at Bundaberg Hospital.
- Bundaberg had a statistically significantly lower rate of documented staff feedback for SAC2 and SAC3 events when compared to the rest of the state. These rates were statistically different at the 99.9% level.

3. Corrective action analysis

Period of Analysis - Since inception through until 13 February 2009.

Bundaberg
- 3,030 incidents have been reported in PRIME CI and documented as ‘closed’ at Bundaberg Hospital. Of the 3,030 closed incidents, corrective actions had been reported in 884 (29%) incidents.
- The percentage of corrective actions documented in PRIME CI increased with SAC ratings. Of the 6 SAC 1 events, 4 events had documented corrective actions, whilst SAC 2 and SAC3 events had 23% and 9% respectively.

Queensland (excluding Bundaberg)
- 173,165 incidents have been documented in PRIME CI at Queensland Hospitals (excluding Bundaberg) and documented as ‘closed’. Of the 173,165 incidents documented as ‘closed’, corrective actions had been documented in 53,526 (31%) incidents.
- The percentage of corrective actions documented in PRIME CI increased with SAC ratings. Of the SAC 1 events, 75% events had documented corrective actions, whilst SAC 2 and SAC3 events had 26% and 18% respectively.

Difference between Bundaberg & Queensland

- Bundaberg and Queensland (excluding Bundaberg) had similar rates of documented corrective actions of closed incidents. These rates were not statistically different at the 99.9% level.
- Bundaberg and Queensland (excluding Bundaberg) had similar rates of documented corrective actions for closed incidents for SAC1 and SAC2 events. These rates were not statistically different at the 99.9% level.
- Bundaberg had a statistically significantly lower rate of documented corrective actions of closed incidents for SAC3 events when compared to the rest of the state. These rates were statistically different at the 99.9% level.

Issues

- Reported corrective actions are determined by the line manager entering information into the corrective actions fields. Caution should be used in interpreting this information as a corrective action may be reported elsewhere in the system.
- The strength of corrective actions was not analysed.

4. Type of incident analysis conducted

Period of Analysis – 27 July 2006 through until 13 February 2009

Bundaberg

- 2,360 incidents have been reported in PRIME CI and documented as 'closed' at Bundaberg Hospital for the time period under review. Of the 2,360 incidents documented as 'closed', an aggregated (local) review, clinical review, Human Error and Patient Safety (HEAPS) analysis, Root Cause Analysis (RCA), or TASK System Analysis was documented to have been undertaken for 140 (6%) incidents.
- The percentage of incidents with a documented analysis in PRIME CI increased with SAC ratings. Of the 6 SAC 1 events, all events had documented analysis as having been undertaken, whilst SAC 2 and SAC3 events had 19% and 4% respectively.

Queensland (excluding Bundaberg)

- 127,327 incidents have been reported in PRIME CI and documented as 'closed' at Queensland Hospitals (excluding Bundaberg) for the time period under review. Of the 127,327 incidents documented as closed, an aggregated (local) review, clinical review, HEAPS analysis, Root Cause Analysis (RCA), or TASK System Analysis was documented to have been undertaken for 9,794 (8%) incidents.
- The percentage of incidents with a documented analysis in PRIME CI increased with SAC ratings. Of the 249 SAC 1 events, 244 events had an analysis documented, whilst SAC 2 and SAC3 events had 17% and 7% respectively.

Difference between Bundaberg & Queensland

- Bundaberg had a statistically lower rate of documented analysis in PRIME CI undertaken when compared to the rest of the state. These rates were statistically different at the 99.9% level.
- Bundaberg and Queensland (excluding Bundaberg) had similar rates of documented analysis in PRIME CI for closed incidents for SAC1 and SAC2 events. These rates were not statistically different at the 99.9% level.
- Bundaberg had a statistically significantly lower rate of documented analysis of closed incidents for SAC3 events when compared to the rest of the state. These rates were statistically different at the 99.9% level.

Issues

- Reported analysis includes if a line manager reports to have undertaken an aggregated (local) review, clinical review, HEAPS analysis, Root Cause Analysis (RCA), or TASK System Analysis.
- An option to report on the "type of analysis" in PRIME CI was implemented in 27 July 2006. The data analysis therefore excludes data collected prior to 27 July 2006.

End