Background:
Abdul Latif Jameel Hospital (ALJH) has been monitoring several hospital-wide Clinical Quality Indicators. The Ministry of Health and other accreditation bodies such as CBAHI and ACHSI employ Clinical Quality Indicators to fulfill one of its key objectives of monitoring and assessing the clinical performance of hospital institutions so as to facilitate continuous quality improvement and benchmarking.

Infection Prevention and Control Indicators
1. Hand Hygiene
Hand hygiene is a critical component of patient and employee safety. Effective patient safety and infection prevention programs require that healthcare personnel be familiar with hand hygiene recommendations and consistently adhere to them. One of the aims of IPC plan is to provide all ALJH staff, patient and family and visitors with information to successfully implement a hand hygiene program in compliance with the Centers for Disease Control and Prevention (CDC) guidelines, the World Health Organization’s (WHO’s) Clean Care Is Safer Care campaign, and accreditation bodies such as CBAHI and ACHSI requirements.

Reason for selecting the indicator:
1. Hand hygiene indicator serves to examine the trends in the standard of care in ALJ Hospital beyond fulfilling regulatory requirements.
2. The hand hygiene audit was undertaken as quality improvement initiative in all ALJH Staff Groups.
3. Hand hygiene is a proven, low-cost intervention to prevent the spread of Healthcare-Associated Infections (HAIs).

Type of Indicator: Process /CBAHI, ACHSI- Related

Methodology
The infection control nurse monitors staff hand hygiene compliance at all category levels.

Valid and reliable data concerning desired and undesired results play an important role in a comprehensive monitoring and evaluation system.

Why monitor clinical performance?
Clinical indicators serve to examine the trends in the standards of care in Abdul Latif Jameel Hospital beyond fulfilling regulatory requirements.

Infection Prevention & Control Newsletter
Abdul Latif Jameel Hospital

Inside this issue:
Infection Prevention & Control Indicators- Background
Indicator :Hand Hygiene
Indicator: Healthcare-Associated Infections (HAI)
Indicator: Catheter-Associated Urinary Tract Infection (CAUTI)
Indicator: Sharps Exposure / Needlestick Injuries
Indicator: Waste Environmental Management- Sharpbox Overfilled Rates
Infection Prevention & Control Newsletter
Cont. Hand Hygiene

Healthcare workers were observed for their compliance against the World Health Organization (WHO) “5 moments of hand hygiene” for critical situations and other suitable occasions where hand hygiene must be performed. Staff group members were randomly monitored during Infection Control Nurse Rounds while they undertake patient care or normal working routine inside ALJH facility. It is well recognized that workers will change their behaviour, if aware that they are being observed (Hawthorne effect). Compliance is defined as the number of hand hygiene actions divided by the number of opportunities that require hand hygiene actions, multiplied by 100, expressed as a percentage and tabulated according to professional designation or staff groups. Opportunities for and actual performance of hand hygiene (using liquid hand soap and water or alcohol-based hand rub) were recorded in a specially designed audit tool.

**Benchmark & Comparators: Internal, National and International.**

A benchmark is a standard against which performance is compared. A benchmark is based on previous performance in another jurisdiction or organization, or performance in the same organization, that is considered a reasonable level of performance for which to achieve. A benchmark changes when new evidence or a higher level of evidence suggests a more current benchmark is appropriate.

Example: 70% hand hygiene compliance (Saudi Arabia National Benchmark).

### Trend*

### Target

85%

### Actual

75.8%

**Figure 1.** ALJH Hand Hygiene Overall Compliance Rates Year 2013 -2014 in 3 Audit Periods, Internal Benchmarking.

**Figure 2.** Average Compliance % Compared Annually, Year 2011-2014

**Figure 3.** Internal comparison between three audit periods (March June-September ) by staff groups Year 2014.

Staff Groups:

- **Nursing** includes nurses, volunteers, nursing students, nursing assistants, ward assistants.
- **Physicians** include resident doctors, specialists, consultants or attending.
- **Allied Health Professionals (AHP)** are healthcare workers, other than doctors or nurses who help to treat and care for patients. Examples include physiotherapists, occupational therapists, respiratory therapists, radiographers and podiatrists.
- **Ancillary Staff Group (ASG)** - these are support staff such as porters, cleaning staff, and other healthcare professionals with patient contact such as cardiac, laboratory, respiratory and audiology technicians.
2. Healthcare–Associated Infections (HAI)

Reason for selecting the indicator:
To monitor trends in HAI rates as a tool in evaluating effectiveness of infection control and prevention measures.

Strict adherence to the surveillance is critical to provide consistency and comparability of data within ALJ Hospital.

Type of Indicator:
Outcome/Process / CBAHI & ACHSI Related

Dimensions of Performance:
Safety/ Appropriateness/ Effectiveness

Methodology:
The Infection Control Nurse/Practitioner collected data from daily surveillance rounds using a specialized surveillance tool, reports from the nursing staff, chart review, laboratory reports, treatment reviews and clinical observations. All laboratory investigation reports with isolated organisms, whether or not the patient exhibits signs and symptoms of infection were gathered by the infection control nurse to be analyzed and used as a baseline assessment data for future reference. Individual cases were determined whether a healthcare-associated infection is present using the definitions set by the Centers for Disease Control and Prevention (CDC)/ National Healthcare Safety Network (NHSN).

Annual Target ALJH seeks to reach:
To maintain below the ALJH Endemic rate of <2 per 1000 patient days [SD]

Benchmark & Comparators:
3. Catheter-Associated Urinary Tract Infection (CAUTI) Rates

At ALJH, we perform CAUTI surveillance in all of our adult rehabilitation in-patient wards. We utilize surveillance definitions from the Centers for Disease Control and Prevention (CDC) National Healthcare Safety Network (NHSN). Surveillance began in January 2012. CAUTI rates are expressed as the number of infections per 1000 urinary catheter-days. Our CAUTI prevention program is currently being implemented and includes efforts and programs to reduce the number of urinary catheter days by prompting catheter removal, improve urine sample collection procedures for urine cultures, and monitor and sustain evidence-based best practices for urinary catheter insertion and maintenance.

Reason for selecting the indicator: (1) To provide continuous monitoring of whether CAUTI rates and catheter prevalence are decreasing. (2) To focus attention on which patients inappropriately have catheters, so education and processes can be implemented to reduce unnecessary catheter use and infection risk.
Type of Indicator: Cont. CAUTI
Outcome/Process / CBAHI & ACHSI Related

Dimensions of Performance: Safety/ Appropriateness/ Effectiveness

Methodology: Outcome data are monitored through daily surveillance of Infection Control Practitioner, reports from the nursing staff and laboratory, clinical observations, chart and treat-ment review. Individual cases were determined whether a CAUTI is present using the surveillance definitions for UTI recently modified in National Healthcare Safety Network (NHSN) http://www.cdc.gov/nhsn/library.html.

Process data are submitted to the Infection Control by the Head Nurses every Saturday on catheter appropriateness using the UTI Bundle Compliance form.

The CAUTI rate per 1000 urinary catheter days is calculated by dividing the number of CAUTIs by the number of catheter days and multiplying the result by 1000. The Urinary Catheter Utilization Ratio is calculated by dividing the number of urinary catheter days by the number of patient days.

Annual Target of ALJH
To maintain below the benchmark of 2.9 per 1000 catheter days of NHSN.

Benchmark & Comparators:
National Healthcare Safety Network (NHSN) Report, Data Summary for 2012, Device-Associated Module, accessed through AJIC: American Journal of Infection Control Volume 41, Issue 12, Pages 1148-1166, December 2013. ALJH Rates are compared to NHSN Adult Rehabilitation Freestanding Unit with pooled mean of 2.9 per 1000 / catheter days.

Table 1  Incidence of CAUTI and Urinary Catheter Utilization ratio compared to the Rate/Ratio of US NHSN, 1st to 4th Quarter 2014.

<table>
<thead>
<tr>
<th>Surveillance Period</th>
<th>Catheter-Associated UTI / 1000 Catheter Days</th>
<th>Urinary Catheter Utilization Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Benchmark Comparison</td>
<td>Benchmark Comparison</td>
</tr>
<tr>
<td></td>
<td>ALJH</td>
<td>NHSN Pooled Mean</td>
</tr>
<tr>
<td>Year 2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Quarter</td>
<td>1.43</td>
<td>2.9</td>
</tr>
<tr>
<td>2nd Quarter</td>
<td>0.0</td>
<td>2.9</td>
</tr>
<tr>
<td>3rd Quarter</td>
<td>2.24</td>
<td>2.9</td>
</tr>
<tr>
<td>4th Quarter</td>
<td>0.0</td>
<td>2.9</td>
</tr>
</tbody>
</table>

The rates are maintained below the target.

4. Sharps Exposure / Needlestick Injuries

<table>
<thead>
<tr>
<th>Trend*</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>↑</td>
<td>&lt; 8 exposures a year / &lt;0.4 per 1000 patient days</td>
<td>3 exposures / 0.15 per 1000 patient days</td>
</tr>
</tbody>
</table>
Cont. Sharps

**Reason for selecting the indicator:**
Provide safety measures to protect patients and staff from accidental punctures/needlestick injuries from handling and disposal of sharps/needles.

To pay attention on proper education and processes that can be implemented to reduce exposure of staff to needlestick injuries and infection risk.

**Type of Indicator:**
Outcome/Process / CBAHI & ACHSI Related

**Dimension of Performance:**
Safety

**Methodology:**
Sharps-related injuries or exposures are reported to Infection Control, Quality Improvement and Occupational Health and Safety of ALJH using a specialized form known as "Blood and Body Fluid Exposure Report" and Occurrence Variance Report (OVR). They are recorded in Sharps Injury Log of infection control and Staff Injury Log of employee health.

Sharps injury rate is the number of sharps exposures or needlestick injuries divided by the total number of patient days in a month multiplied by 1000. Staff compliance is monitored by the Link Nurses using the “Sharps Injury prevention Compliance” form and submitted to Infection Control weekly.

**Annual Target of ALJH:**
To maintain less than 8 exposures a year / <0.4 per 1000 patient days.

**Figure 9-11. Benchmark and comparators:**

**Figure 9**

*Annual Sharps Injury Rates/1000 Patient Days*

*Year 2010 - 2014*

![Annual Sharps Injury Rates/1000 Patient Days](Image)

**Figure 10**

*Sharps Injury Rates /1000 Patient Days*

*1st - 4th Quarter 2014*

![Sharps Injury Rates /1000 Patient Days](Image)

**Figure 11**

*Sharps Injury Rates / 1000 Patient Days Compared with other Hospital*

*Year 2010 - 2014*

![Sharps Injury Rates / 1000 Patient Days Compared with other Hospital](Image)

**Comments:**
No data available for comparison with the same rehabilitation facility. Rates were compared with acute hospital in Jeddah.

**Action taken over the last year:**
Quality Improvement project: FOCUS PDCA on Preventing Needlestick Injuries Among Nursing Staff from July 2013 to July 2014.
Reason for selecting the indicator:
This is an indicator addressing healthcare workers safety in terms of handling and disposal of sharpboxes. To monitor compliance of the recommended best practice for sharps waste collection and disposal.

Type of Indicator:
Process /CBAHI & ACHSI Related

Dimension of Performance:
Safety

Methodology:
All sharpboxes for disposal are monitored and recorded by the housekeeping personnel using the sharpbox log sheet. Sharpsboxes are disposed when ¾ full. The infection control nurse is informed by the housekeeper whenever they observe overfilled sharpboxes. Actions are done for non-compliance. Sharpbox overfilled rate is the number of containers overfilled divided by the total number of sharps containers collected multiplied by 100, expressed as percentage and tabulated as below:

Table 2 Sharp Box Monitoring 1st – 4th Quarter Audit Period 2014

<table>
<thead>
<tr>
<th>Audit Period</th>
<th>Total No. Sharp Boxes Disposed</th>
<th>¾ Full</th>
<th>No. Of Sharp Boxes Overfilled</th>
<th>*Rate of Overfilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Quarter</td>
<td>24</td>
<td>24</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>2nd Quarter</td>
<td>21</td>
<td>21</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>3rd Quarter</td>
<td>19</td>
<td>18</td>
<td>1</td>
<td>5.3%</td>
</tr>
<tr>
<td>4th Quarter</td>
<td>28</td>
<td>27</td>
<td>1</td>
<td>3.7%</td>
</tr>
<tr>
<td>Total / Annual Overfilled Rate</td>
<td>92</td>
<td>90</td>
<td>2</td>
<td>2.2%</td>
</tr>
</tbody>
</table>

Figure 12

Sharpbox Overfilled Rate
Year 2013 - 2014

Figure 13

Annual Sharpbox Overfilled Rates Year 2013 - 2014

Figure 14

Annual Sharpbox Overfilled Rate Compared with Other Hospital in Jeddah Year 2013-2014

Benchmark and comparators:
No data available for comparison with the same rehabilitation facility. Rates were compared with acute hospital in Jeddah.
GAME INSTRUCTION: Print out this page, complete the cross word puzzle game referring from the hints listed above & send to IC Office. The first five ALJH staff members who got all the answers correct will receive a simple gift from Infection Prevention and Control Department. For more information, contact ICP in extension no. 1611.