## Performance Measure Definition

### Hospital Occupancy

<table>
<thead>
<tr>
<th>Name and Definition</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Name</strong></td>
<td>Hospital Occupancy – Acute Care Sites</td>
</tr>
<tr>
<td><strong>Short Name</strong></td>
<td>Hospital Occupancy</td>
</tr>
<tr>
<td><strong>Definition</strong></td>
<td>Patient Census Days divided by Available Bed Days</td>
</tr>
<tr>
<td><strong>Domain</strong></td>
<td>Health Services Delivery</td>
</tr>
</tbody>
</table>

### Dimension

<table>
<thead>
<tr>
<th>Acceptability</th>
<th>Efficiency</th>
<th>Appropriateness</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Effectiveness</th>
<th>Accessibility</th>
<th>Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category of Measure</th>
<th>Strategic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Measure</td>
<td>Process Measure</td>
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### Other Comments / Notes

#### Context

**Business Context**

High occupancy rates at hospitals have a detrimental effect on patient flow.

In February 2012, the Minister of Health issued three directives to AHS in response to a broader Health Quality Council of Alberta report (Review of the Quality of Care and Safety of Patients Requiring Access to Emergency Department Care and Cancer Surgery and the Role and Process of Physician Advocacy, February 2012) that cited occupancy rates and access to continuing care as critical foundations to improved health delivery in Alberta. The directive specific to occupancy was to “reduce average weekly hospital occupancy rates at seven Alberta hospitals: Foothills Medical Centre, Peter Lougheed Centre, Rockyview General Hospital, University of Alberta Hospital, Royal Alexandra Hospital, Grey Nuns Community Hospital and Misericordia Community Hospital”.

#### Rationale

Operational performance

#### Notes for Interpretation

It is possible for Hospital Occupancy to be greater than 100%, as all available beds can be occupied, and additional patients can be placed in overcapacity beds or be admitted from Emergency but remain in the ED as Inpatients (EIP), or possibly other circumstances.

Essentially this is the broadest or “worst case” definition of occupancy as it includes the widest net of registered inpatients (numerator), yet excludes overcapacity spaces from a hospital’s overall bed count (denominator).

#### Organizational Strategy

This measure will provide AHS with consistent and comparable occupancy information across the organization’s largest hospitals. Accurate and timely reporting will allow occupancy to be managed at the site level and will enable the Zones to assess the impact of local improvement initiatives designed to improve patient flow.

#### Benchmark Comparisons

No national or provincial benchmarks are available; however, the HQCA report (Feb, 2012) notes that “optimal average occupancy rates are estimated to be approximately 85 per cent” and cites the following reference:


#### Cited References

Not applicable

### Technical Specifications

<table>
<thead>
<tr>
<th>Metric</th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Preferred Display Format</strong></td>
<td>999% (no decimal places)</td>
</tr>
</tbody>
</table>

**Metric** Percentage: Patient Census Days divided by Available Bed Days
### Numerator

**Patient Census Days** = The average total day equivalent of adult and child inpatient registrations in the hospital daily during the reporting period. Patient census days for a specific day are calculated as total minutes of registered inpatients that overlap the day, divided by 24x60 (24 hours x 60 minutes). For calculation of weekly occupancy, the average of the total patient census days for the seven days is calculated and used as the numerator.

#### Inclusion Criteria for Numerator
- Emergency inpatients (EIPs); i.e. those in ED who are admitted and are waiting for an inpatient bed (i.e. any patient with a ‘decision to admit’ order)
- Post-anesthetic recovery patients (PARs)
- Admitted day-of procedure patients (ADOPs)
- Patients in operating room (OR location as an inpatient)
- Patients in special care units (this can include ICU, NICU, CCU, CVICU, PICU and other SCU designated spaces.)
- Registered inpatients in all spaces (including holding beds)
- Patients on passes (out of hospital but still flagged as an inpatient)
- Maternal patients
- Sites reported include:
  - Foothills Medical Centre
  - Rockyview General Hospital
  - Peter Lougheed Centre
  - Alberta Children’s Hospital
  - University of Alberta Medical Centre
  - Royal Alexandra Hospital
  - Grey Nuns Community Hospital
  - Misericordia Community Hospital
  - Stollery Children’s Hospital

#### Exclusion Criteria for Numerator
- Day procedures, day medicine
- Outpatient (ambulatory) registrations
- Bassinets and newborns (per above, all patients in NICU are included)

#### Data Source(s) for Numerator
Admissions, Discharge and Transfer (ADT) systems (hospital registration) as represented in the AHSDRR (Alberta Health Services Data Repository for Reporting); i.e. Betach in Calgary, Vax/Tandem in Edmonton, and Meditech in the North, Central and South Zones.

#### Refresh Rate for Numerator
Daily

#### Data Steward for Numerator
AHS – Data Integration, Measurement and Reporting (DIMR)

### Denominator

Available Bed Days = Daily Beds in operation minus daily blocked beds For calculation of weekly occupancy, the average of the available bed days for the seven days is calculated and used as the denominator.

#### Inclusion Criteria for Denominator
- Beds in operation (staffed and funded)
- All inpatient beds in operation at the hospital sites (including Acute, Subacute, Rehab, Transition)
- When beds are blocked from use for more than 24 hours they are deemed blocked and are subtracted from the available bed complement. This includes beds closed temporarily (for 24 hours or more) due to staffing, isolation, weekends, holidays, bed closures due to operating room (OR) closures, maintenance, renovations, or other reasons that may include special patient care needs.
- Labour and Delivery rooms

#### Exclusion Criteria for Denominator
- Closed beds (Permanent closures which would be physically ready to open if staffing and funding were available) are not included.
- Over Complement Beds used are not included in available acute care beds number. Over complement beds can include beds located in lounges, shower rooms, hallways or similar temporary spaces. It may also include physical beds which are non-funded or closed or blocked but in use to handle additional patient capacity with current staff. Terminology in use for this category of bed may differ by site and can include “overflow”, “over capacity” or “over complement” spaces. Patients in these spaces are considered over complement or overflow patients.
- Operating rooms

#### Data Source(s) for Denominator
AHS Bed Tracker

#### Refresh Rate for Denominator
Daily, via data entry at each site
## Performance Measure Definition

<table>
<thead>
<tr>
<th>Data Steward for Denominator</th>
<th>AHS – DIMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Notes</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Calculation</td>
<td>Patient Census Days (total for registered inpatients) divided by Available Bed Days  &lt;br&gt;Sample Calculation: ( \text{{Sum of seven days [ (Sum of all minutes of inpatient registration overlapping a given day)/(24x60)]/7 }} / { \text{Sum of seven days [ (Daily acute care bed capacity – Blocked beds)]/7} } )</td>
</tr>
<tr>
<td>Relationship to Other Indicators</td>
<td>Number of people assessed and waiting in acute/sub-acute care for continuing care  &lt;br&gt;Percentage Alternate Level of Care (ALC) days  &lt;br&gt;Patients admitted from ED within 8 Hours  &lt;br&gt;Patients discharged from ED within 4 Hours</td>
</tr>
<tr>
<td>Level of Reporting</td>
<td>National No  &lt;br&gt;Provincial No  &lt;br&gt;Zone No  &lt;br&gt;Site Yes</td>
</tr>
<tr>
<td>Reporting Notes</td>
<td>Site, unit, service</td>
</tr>
<tr>
<td>Frequency of Reporting</td>
<td>Annually No  &lt;br&gt;Quarterly No  &lt;br&gt;Monthly No  &lt;br&gt;Other Yes</td>
</tr>
<tr>
<td>Other Reporting Frequency</td>
<td>Weekly</td>
</tr>
<tr>
<td>NB: Official deliverable to Alberta Health will be “weekly hospital occupancy” at the seven high-volume sites (UAH, RAH, Grey Nuns, Misericordia, FMC, RGH, and PLC). Weekly Statistics represent the 7-day/168-hour average for the period Sunday through Saturday (i.e. is aligned to the calendar week).</td>
<td></td>
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<tr>
<td>Limitations</td>
<td>As at June, 2012, service-level reporting is tied to the service of the bed, not the service of the patient (i.e. does not address off-service patients, nor does service-level reporting accurately portray hospital units which may be assigned to more than one service). Refinements will be made where possible to more accurately align service-level reporting to the patient.</td>
</tr>
</tbody>
</table>