# OptiMed Domain Glossary (v0)

## Clinical-Flow Entities

* PatientContext

|  |  |  |
| --- | --- | --- |
| **Field** | **Meaning** | **Typical Source** |
| patient\_id | Persistent identifier | EHR / government register |
| name | Preferred display name | EHR demographics |
| age | Age in years | EHR |
| sex | Administrative sex | EHR |
| care\_unit | Current ward / department | ADT feed (HL7 A01/A02) |
| vitals | Latest vital‑sign dict, e.g. {hr: 72, bp: "118/70"} | Bed-side monitor interface |
| labs | Most recent key lab results, {K⁺: 3.8, Hb: 121} | LIS / FHIR Observation |
| updated\_at | Timestamp this snapshot was assembled | OptiMed ingest pipeline |
| Methods | has\_critical\_lab(), critical\_lab\_msgs() | Uses hospital-defined critical ranges |

* Encounter

|  |  |
| --- | --- |
| **Field** | **Meaning** |
| encounter\_id | Admission/visit ID (EHR encounter) |
| patient\_id | From PatientContex |
| status | IN\_PROGRESS, DISCHARGED |
| admit\_ts/discharge\_ts | Entry/exit timestamps |
| stay\_history | Ordered list of BedState segments |
| Methods | length\_of\_stay(now) – returns timedelta |

* BedState

|  |  |
| --- | --- |
| **Field** | **Meaning** |
| bed\_id | Unique bed identifier |
| care\_unit | Owning ward |
| status | VACANT, CLEANING, OCCUPIED |
| since | When the status last changed |
| Methods | idle\_minutes(now) – minutes bed has been non‑occupied |

## Information-Flow Entities

* InfoEvent

|  |  |
| --- | --- |
| **Field** | **Meaning** |
| event\_id | UUID for immutable event |
| patient\_id | Nullable; None for system-wide events |
| type | LAB\_CRIT, RAD\_READY, … |
| payload\_json | Raw payload as JSON string |
| created\_at | Event creation timestamp |
| Methods | route\_targets(policy) – returns list of recipient IDs |

* Notification

|  |  |
| --- | --- |
| **Field** | **Meaning** |
| notification\_id | Delivery instance ID |
| event\_id | From InfoEvent |
| recipient\_ids | List of user IDs |
| channel | TEAMS, ASCOM, IN\_APP, … |
| status | DELIVERED, ACK, TIMEOUT |
| delivered\_at/ack\_at | Delivery & acknowledgement times |
| Methods | acknowledge(ts) – returns new object marked ACK |

* CommThread

|  |  |
| --- | --- |
| **Field** | **Meaning** |
| thread\_id | Conversation contained ID |
| notifications | All notifications |
| owners | Current + past responsible user IDs |
| opened\_at/closed\_at | Lifecycle timestamps |
| Methods | add\_notification(n), is\_closed() |

## KPI & Alert Entities

* KPIEvent

|  |  |
| --- | --- |
| **Field** | **Meaning** |
| metric | AAT, BedIdleMin, LOS … |
| value/unit | Numerical value & unit |
| recorded\_at | Timestamp metric was captured |
| metric\_source | From PatientContext |

* Alert

|  |  |
| --- | --- |
| **Field** | **Meaning** |
| alert\_id | AI-generated alert ID |
| message | Human-readable summary |
| severity | LOW, MEDIUM, HIGH, CRITICAL |
| subject\_id | PatientContext ID or None for system alerts |
| created\_at/resolved\_at | Lifecycle timestamps |
| Methods | escalate() – returns new alert with higher severity |

## Enum Definitions

|  |  |
| --- | --- |
| **Enum** | **Values** |
| BedStatus | VACANT, CLEANING, OCCUPIED |
| EncounterStatus | IN\_PROGRESS, DISCHARGED |
| EventType | LAB\_CRIT, RAD\_READY, PATIENT\_MOVE,… |
| Channel | TEAMS, ASCOM, SMS, IN\_APP, … |
| NotificationStatus | DELIVERED, ACK, TIMEOUT |
| Severity | LOW, MEDIUM, HIGH, CRITICAL |

## Reference Metrics

* **AAT (Alert‑to‑Ack Time)** — derived from Notification timestamps.
* **BedIdleMin** — from BedState.idle\_minutes() per bed per hour.
* **LOS (Length of Stay)** — from Encounter.length\_of\_stay() at discharge.