

| | Counting Table | | |
|---|----------------|-------|------|
| | ActivityId | Trace | Cour |
| | _trace_payload | 1 | 1 |
| | _trace_payload | 2 | 1 |
| | _trace_payload | 3 | 1 |
| g | Referral | 1 | 1 |
| | Referral | 2 | 1 |
| | Referral | 3 | 1 |
| | Mastectomy | 1 | 1 |
| | Mastectomy | 2 | 0 |
| | Mastectomy | 3 | 0 |
| | FollowUp | 1 | 1 |
| | FollowUp | 2 | 0 |
| | FollowUp | 3 | 1 |
| | Lumpectomy | 1 | 0 |
| | Lumpectomy | 2 | 0 |

Lumpectomy

(§4.1)

| Activity Table | | | | | |
|----------------|----------------|-------|-------|------|------|
| 1D | ActivityId | Trace | Event | Prev | Next |
| #1 | _trace_payload | 1 | 1 | NULL | #4 |
| #2 | _trace_payload | 2 | 1 | NULL | #5 |
| #3 | _trace_payload | 3 | 1 | NULL | #6 |
| #4 | Referral | 1 | 2 | #1 | #7 |
| #5 | Referral | 2 | 2 | #2 | NULI |
| #6 | Referral | 3 | 2 | #3 | #10 |
| #7 | Mastectomy | 1 | 3 | #4 | #8 |
| #8 | FollowUp | 1 | 4 | #7 | NULI |
| #9 | FollowUp | 3 | 4 | #10 | NULI |
| #10 | Lumpectomy | 3 | 3 | #6 | #9 |

COLUMN-BASED Relational Database

| Attribute Table [patient] | | |
|---------------------------|--------|--------|
| ActivityId | Value | Offset |
| _trace_payload | "001A" | #1 |
| trace_payload | "002A" | #2 |
| _trace_payload | "003A" | #3 |

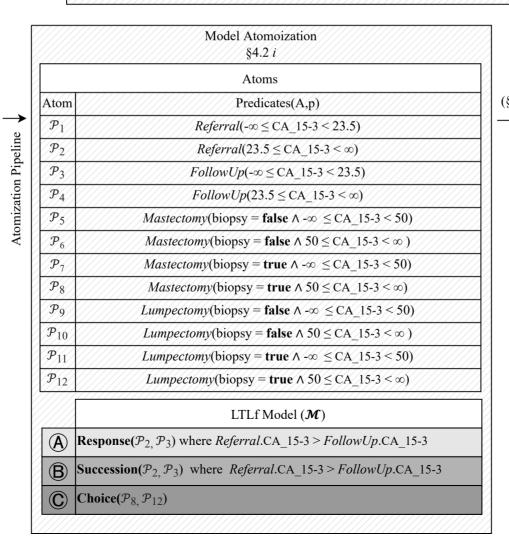
| Attribute Ta | able [location | on] |
|---------------|----------------|--------|
| ActivityId | Value | Offset |
| trace_payload | "LN" | #1 |
| trace_payload | "NE" | #2 |
| trace payload | "YO" | #3 |

| Attribute T | Table [biopsy] | |
|-------------|----------------|--------|
| ActivityId | Value | Offset |
| Mastectomy | true | #7 |
| Lumpectomy | true | #10 |

| | ActivityId | Value | Offset |
|---|------------|-------|--------|
| | Referral | 20 | #5 |
| | Referral | 61 | #6 |
| | Referral | 69 | #4 |
| { | Mastectomy | 69 | #7 |
| | FollowUp | 10 | #8 |
| | FollowUp | 55 | #9 |
| d | Lumpectomy | 61 | #10 |

Attribute Table [CA15-3]

| | Max-SAT Query |
|---|---|
| | Declare Model (\mathcal{M}) |
| A | Response(Referral, CA_15-3 >= 23.5, FollowUp, CA_15-3 < 23.5) where Referral.CA_15-3 > FollowUp.CA_15-3 |
| B | Succession(Referral, CA_15-3 >= 23.5, FollowUp, CA_15-3 < 23.5) where Referral.CA_15-3 > FollowUp.CA_15-3 |
| © | Choice(Mastectomy, CA_15-3 >= 50 && biopsy = true, Lumpectomy, CA_15-3 >= 50 && biopsy = true) |



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