	Log
	Trace Payload { loc_po = "LN", p_id = "001A" }
a	Referral { CA_15-3 = 69 }
1	Mastectomy { CA_15-3 = 69, biopsy = true }
	FollowUp { CA_15-3 = 10 }
_	Trace Payload { loc_po = "NE", p_id = "002A" }
2	Referral { CA_15-3 = 20 }
3	Trace Payload { loc_po = "YO", p_id = "003A" }
	Referral { CA_15-3 = 61 }
	Lumpectomy { CA_15-3 = 61, biopsy = true }
	FollowUp { CA_15-3 = 55 }

Data Loading + Indexing

(§4.1)

COLUMN-BASED Relational Database

Counting Table			Activity Table					
ActivityId	Trace	Count	ID	ActivityId	Trace	Event	Prev	Next
tracepayload	1	1	#1	tracepayload	1	1	NULL	#4
	2	1	#2	tracepayload	2	1	NULL	#5
tracepayload	<u> </u>	1	#3	_trace_payload	3	1	NULL	#6
_trace_payload	3	1	#4	Referral	1	2	#1	#7
Referral	1	1	#5	Referral	2	2	#2	NULL
Referral	2	1	#6	Referral	3	2	#3	#10
Referral	3	1	#7	Mastectomy	1	3	#4	#8
Mastectomy	1	1	#8	FollowUp	1	4	#7	NULL
Mastectomy	2	0	#9	FollowUp	3	4	#10	NULL
ividstectomy		0	#10	Lumpectomy	3	3	#6	#9
Mastectomy	3	0						
FollowUp	1	1						

Attribute T	able [patien	ıt]
ActivityId	Value	Offset
_trace_payload	"001A"	#1
_trace_payload	"002A"	#2
trace_payload	"003A"	#3

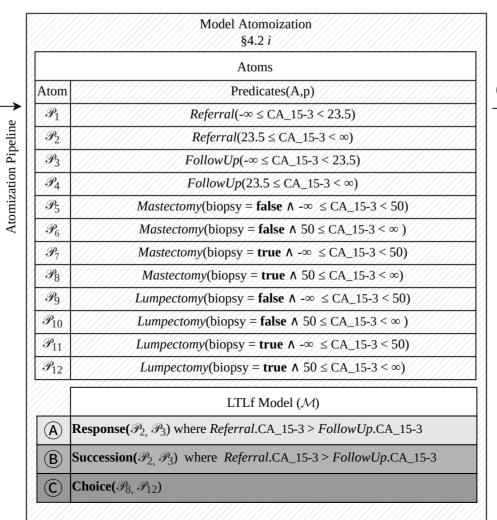
Attribute Table [location]			
ActivityId	Value	Offset	
_trace_payload	"LN"	#1	
_trace_payload	"NE"	#2	
trace payload	"YO"	#3	

Attribute Table [biopsy]				
ActivityId	Value	Offse		
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
Lumpectomy	61	#10

Attribute Table [CA15-3]

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



2

3

1

2

3

FollowUp

FollowUp

Lumpectomy

Lumpectomy

Lumpectomy

0

1

0

0

1

