Patient Event History Analysis
Event Timeline for 10 Randomly Selected Patients

Single-Facility Analysis

2025-11-11

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1 Introduction

This report presents a detailed event history analysis for 10 randomly selected patients from the single-facility simulation. The analysis combines data from multiple event files to create comprehensive timelines showing the sequence of events each patient experienced during their stay(s) at the facility.

2 Data Loading and Processing

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Loading event data...

Data loaded successfully.

Admissions: 19003 events

Clinical detections: 1261 events

Surveillance detections: 1650 events

Decolonizations: 1834 events

Transmissions: 12078 events

Selected patients: 15309, 15357, 15073, 13372, 17137, 15832, 14688, 13988, 16217, 18195

Total patients in admissions: 19003

Total patients in discharged: 6451

Common patients: 6230
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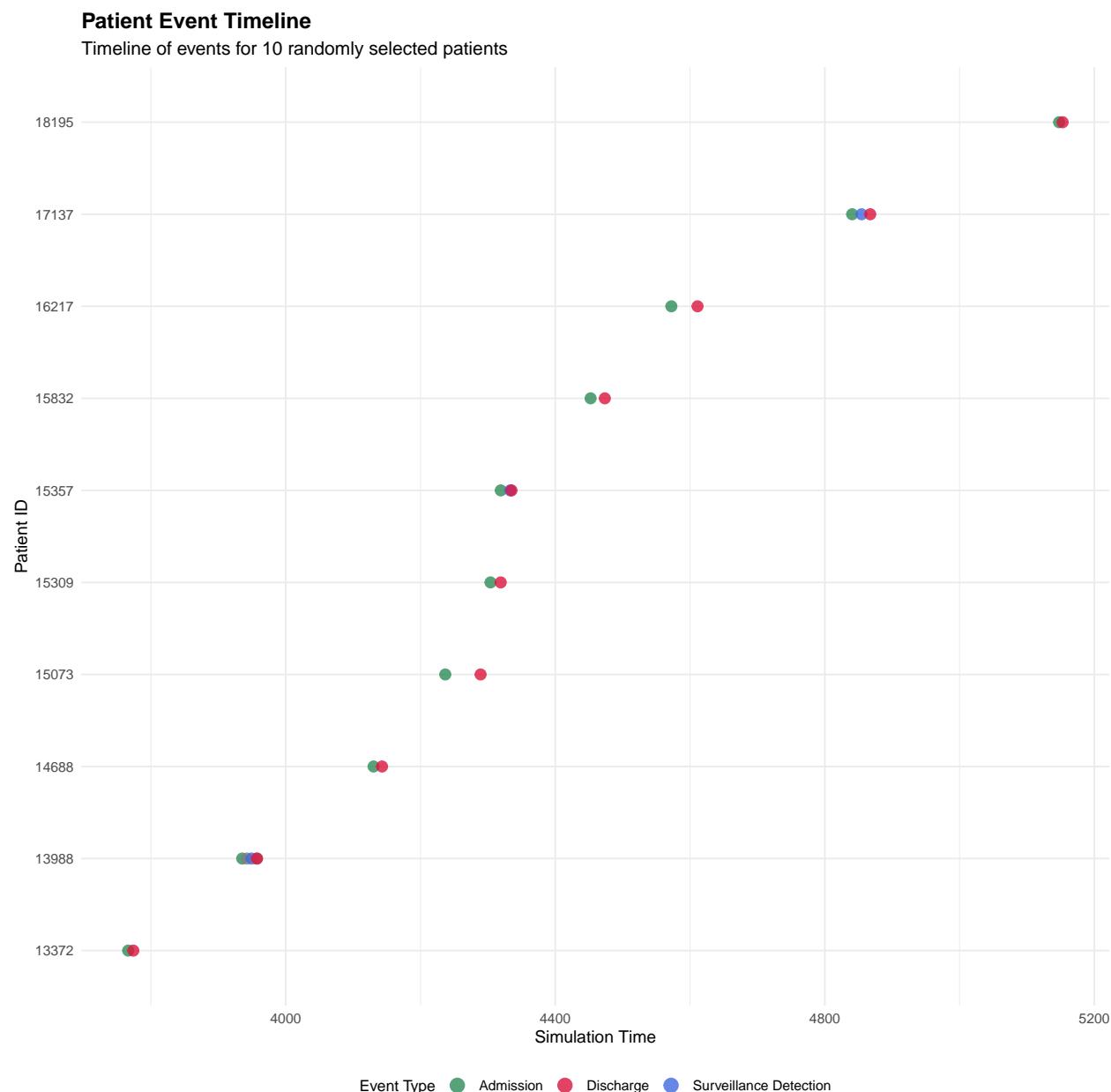
3 Patient Summary

Table 1: Summary of Selected Patients

Patient ID	Admission Time	Discharge Time	Length of Stay	Colonized	Detected	Detection Count
13372	3766.17	3773.85	7.68	No	No	0
13988	3935.38	3957.43	22.05	Yes	Yes	0

Patient ID	Admission Time	Discharge Time	Length of Stay	Colonized	Detected	Detection Count
14688	4130.33	4142.95	12.62	Yes	No	0
15073	4236.79	4289.16	52.37	No	No	0
15309	4303.89	4319.03	15.15	No	No	0
15357	4319.13	4335.04	15.91	Yes	Yes	0
15832	4452.45	4473.54	21.09	No	No	0
16217	4572.30	4611.13	38.83	No	No	0
17137	4840.55	4867.43	26.89	Yes	Yes	0
18195	5147.69	5152.97	5.27	No	No	0

4 Event Timeline Visualization

Patient Event Timeline

Timeline of events for 10 randomly selected patients

5 Individual Patient Event Details

5.1 Patient 13372

Patient Summary: - Admission Time: 3766.17 - Discharge Time: 3773.85 - Length of Stay: 7.68 days - Colonized: No - Detected: No - Detection Count: 0

Table 2: Event History for Patient 13372

Time	Event Type
3766.17	Admission
3773.85	Discharge

5.2 Patient 13988

Patient Summary: - Admission Time: 3935.38 - Discharge Time: 3957.43 - Length of Stay: 22.05 days - Colonized: Yes - Detected: Yes - Detection Count: 0

Table 3: Event History for Patient 13988

Time	Event Type
3935.38	Admission
3942.34	Transmission (Recipient)
3949.38	Surveillance Detection
3957.14	Transmission (Source)
3957.43	Discharge

5.3 Patient 14688

Patient Summary: - Admission Time: 4130.33 - Discharge Time: 4142.95 - Length of Stay: 12.62 days - Colonized: Yes - Detected: No - Detection Count: 0

Table 4: Event History for Patient 14688

Time	Event Type
4130.33	Admission
4142.95	Discharge

5.4 Patient 15073

Patient Summary: - Admission Time: 4236.79 - Discharge Time: 4289.16 - Length of Stay: 52.37 days - Colonized: No - Detected: No - Detection Count: 0

Table 5: Event History for Patient 15073

Time	Event Type
4236.79	Admission
4289.16	Discharge

5.5   Patient 15309

Patient Summary: - Admission Time: 4303.89 - Discharge Time: 4319.03 - Length of Stay: 15.15 days - Colonized: No - Detected: No - Detection Count: 0

Table 6: Event History for Patient 15309

Time	Event Type
4303.89	Admission
4319.03	Discharge

5.6   Patient 15357

Patient Summary: - Admission Time: 4319.13 - Discharge Time: 4335.04 - Length of Stay: 15.91 days - Colonized: Yes - Detected: Yes - Detection Count: 0

Table 7: Event History for Patient 15357

Time	Event Type
4319.13	Admission
4333.13	Surveillance Detection
4335.04	Discharge

5.7   Patient 15832

Patient Summary: - Admission Time: 4452.45 - Discharge Time: 4473.54 - Length of Stay: 21.09 days - Colonized: No - Detected: No - Detection Count: 0

Table 8: Event History for Patient 15832

Time	Event Type
4452.45	Admission
4473.54	Discharge

5.8   Patient 16217

Patient Summary: - Admission Time: 4572.3 - Discharge Time: 4611.13 - Length of Stay: 38.83 days - Colonized: No - Detected: No - Detection Count: 0

Table 9: Event History for Patient 16217

Time	Event Type
4572.30	Admission
4611.13	Discharge

5.9 Patient 17137

Patient Summary: - Admission Time: 4840.55 - Discharge Time: 4867.43 - Length of Stay: 26.89 days - Colonized: Yes - Detected: Yes - Detection Count: 0

Table 10: Event History for Patient 17137

Time	Event Type
4840.55	Admission
4854.55	Surveillance Detection
4867.43	Discharge

5.10 Patient 18195

Patient Summary: - Admission Time: 5147.69 - Discharge Time: 5152.97 - Length of Stay: 5.27 days - Colonized: No - Detected: No - Detection Count: 0
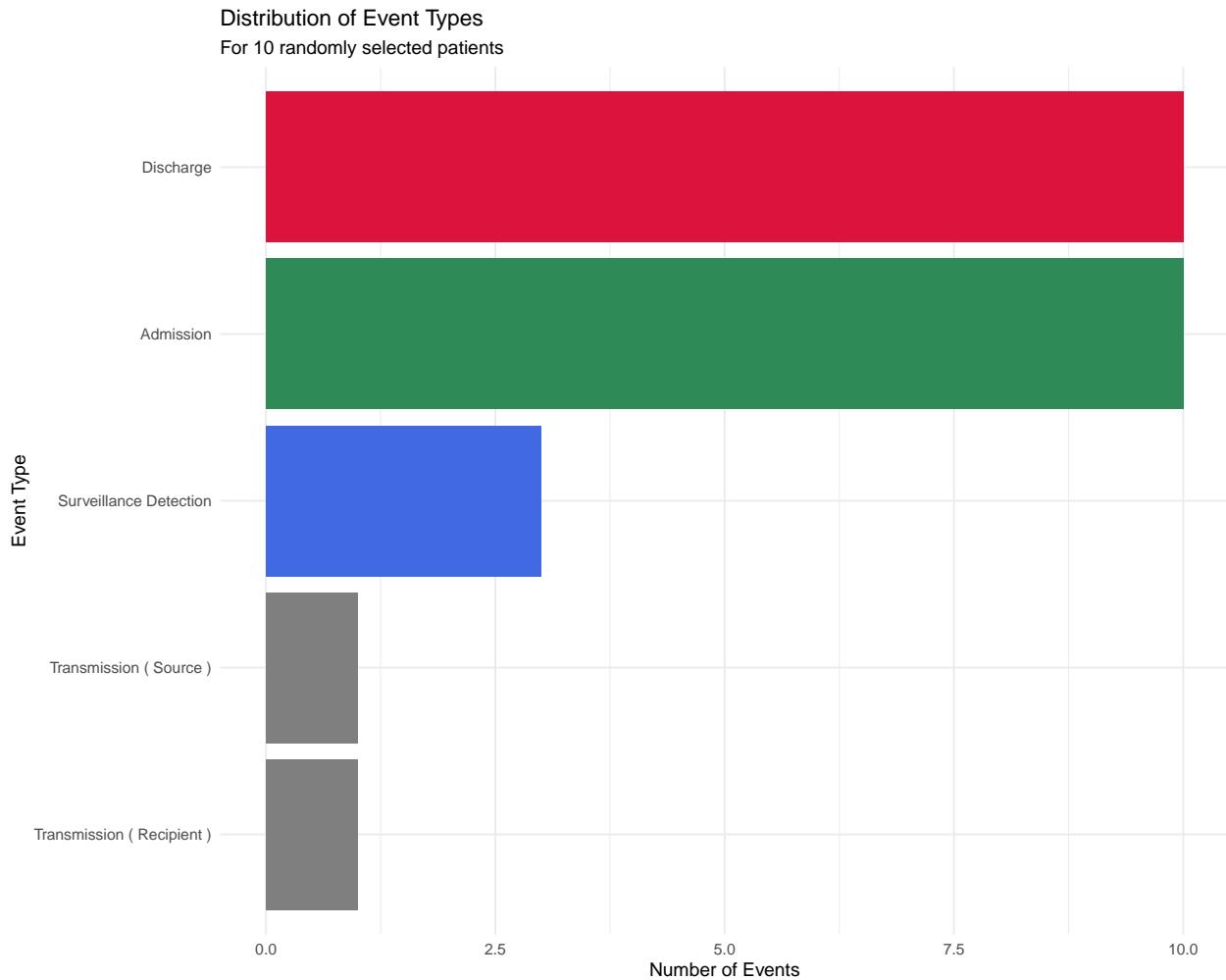
Table 11: Event History for Patient 18195

Time	Event Type
5147.69	Admission
5152.97	Discharge

6 Event Statistics

Table 12: Event Statistics for Selected Patients

Event Type	Total Events	Unique Patients
Admission	10	10
Discharge	10	10
Surveillance Detection	3	3
Transmission (Recipient)	1	1
Transmission (Source)	1	1

Distribution of Event Types
For 10 randomly selected patients

7 Quartile Analysis by Event Count

Table 13: Event Count Distribution by Quartile
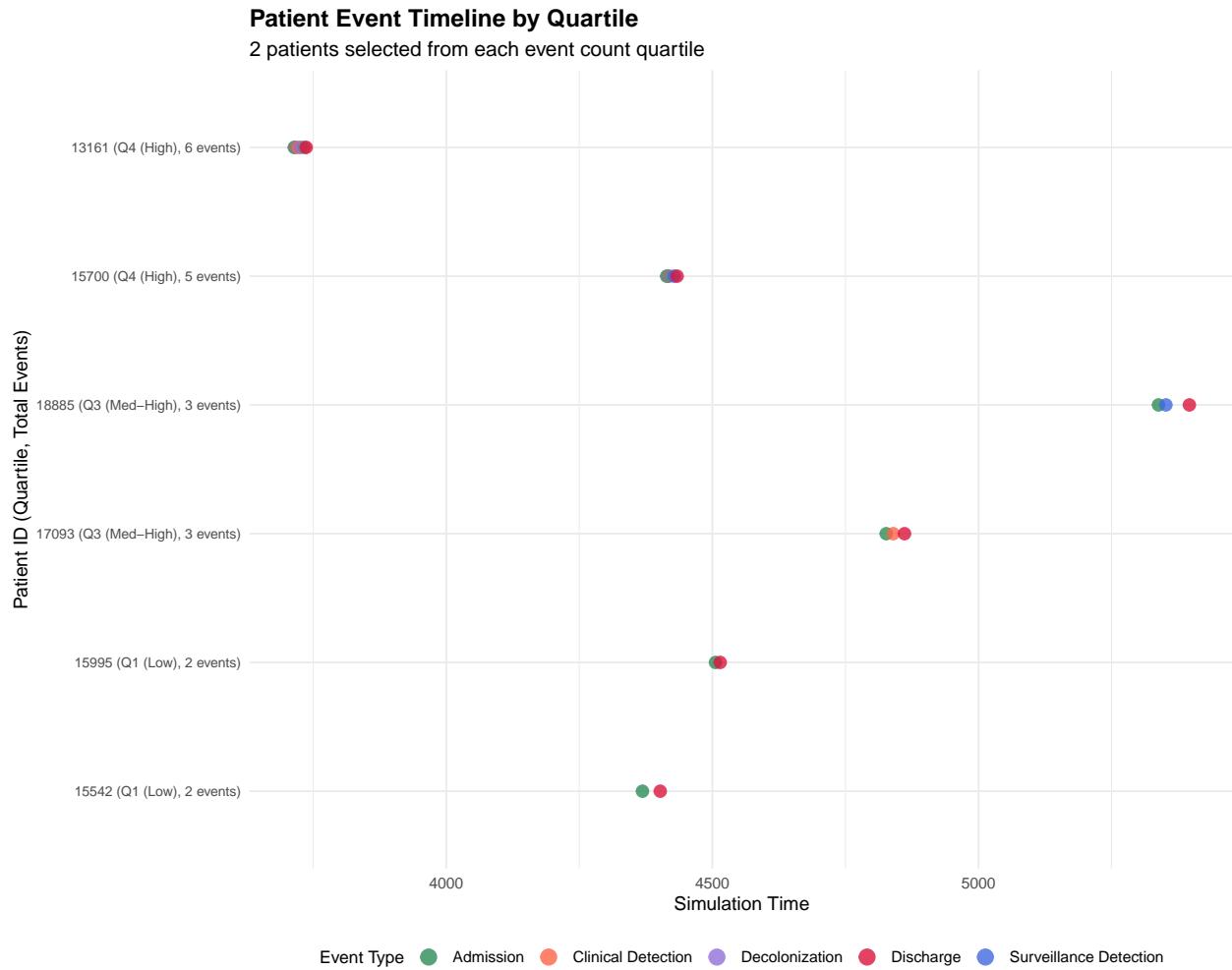
Quartile	N Patients	Min Events	Max Events	Median Events
Q1 (Low)	3623	2	2	2
Q3 (Med-High)	1900	3	4	3
Q4 (High)	707	5	11	5

Table 14: Selected Patients by Event Count Quartile (2 per quartile)

Patient ID	Quartile	Total Events	Admission Time	Discharge Time	Length of Stay	Colonized	Detected	Detection Count
15995	Q1 (Low)	2	4505.81	4514.72	8.91	false	false	0
15542	Q1 (Low)	2	4368.65	4402.04	33.39	false	false	0
18885	Q3 (Med-High)	3	5338.17	5396.19	58.02	true	true	0

Patient ID	Quartile	Total Events	Admission Time	Discharge Time	Length of Stay	Colonized	Detected	Detection Count
17093	Q3 (Med-High)	3	4826.54	4861.04	34.50	true	true	1
15700	Q4 (High)	5	4414.10	4433.84	19.74	true	true	0
13161	Q4 (High)	6	3714.45	3736.97	22.52	true	true	1

7.1 Quartile Timeline Visualization

Patient Event Timeline by Quartile

2 patients selected from each event count quartile

7.2 Quartile Patient Details

7.2.1 Patient 15995 (Q1 (Low))

Patient Summary: - Quartile: Q1 (Low) - Total Events: 2 - Admission Time: 4505.81 - Discharge Time: 4514.72 - Length of Stay: 8.91 days - Colonized: No - Detected: No - Detection Count: 0

Table 15: Event History for Patient 15995 (Q1 (Low))

Time	Event Type
4505.81	Admission
4514.72	Discharge

7.2.2 Patient 15542 (Q1 (Low))

Patient Summary: - Quartile: Q1 (Low) - Total Events: 2 - Admission Time: 4368.65 - Discharge Time: 4402.04 - Length of Stay: 33.39 days - Colonized: No - Detected: No - Detection Count: 0

Table 16: Event History for Patient 15542 (Q1 (Low))

Time	Event Type
4368.65	Admission
4402.04	Discharge

7.2.3 Patient 18885 (Q3 (Med-High))

Patient Summary: - Quartile: Q3 (Med-High) - Total Events: 3 - Admission Time: 5338.17 - Discharge Time: 5396.19 - Length of Stay: 58.02 days - Colonized: Yes - Detected: Yes - Detection Count: 0

Table 17: Event History for Patient 18885 (Q3 (Med-High))

Time	Event Type
5338.17	Admission
5352.17	Surveillance Detection
5396.19	Discharge

7.2.4 Patient 17093 (Q3 (Med-High))

Patient Summary: - Quartile: Q3 (Med-High) - Total Events: 3 - Admission Time: 4826.54 - Discharge Time: 4861.04 - Length of Stay: 34.5 days - Colonized: Yes - Detected: Yes - Detection Count: 1

Table 18: Event History for Patient 17093 (Q3 (Med-High))

Time	Event Type
4826.54	Admission
4839.82	Clinical Detection
4861.04	Discharge

7.2.5 Patient 15700 (Q4 (High))

Patient Summary: - Quartile: Q4 (High) - Total Events: 5 - Admission Time: 4414.1 - Discharge Time: 4433.84 - Length of Stay: 19.74 days - Colonized: Yes - Detected: Yes - Detection Count: 0

Table 19: Event History for Patient 15700 (Q4 (High))

Time	Event Type
4414.10	Admission
4416.25	Transmission (Recipient)
4418.15	Transmission (Source)
4428.10	Surveillance Detection
4433.84	Discharge

7.2.6 Patient 13161 (Q4 (High))

Patient Summary: - Quartile: Q4 (High) - Total Events: 6 - Admission Time: 3714.45 - Discharge Time: 3736.97 - Length of Stay: 22.52 days - Colonized: Yes - Detected: Yes - Detection Count: 1

Table 20: Event History for Patient 13161 (Q4 (High))

Time	Event Type
3714.45	Admission
3715.78	Transmission (Recipient)
3722.15	Clinical Detection
3726.24	Decolonization
3732.96	Transmission (Recipient)
3736.97	Discharge

7.3 Quartile Comparison

Table 21: Event Type Distribution Across Quartiles

event_type	Q1 (Low)	Q3 (Med-High)	Q4 (High)
Admission	2	2	2
Discharge	2	2	2
Clinical Detection	0	1	1
Surveillance Detection	0	1	1
Decolonization	0	0	1
Transmission (Recipient)	0	0	3
Transmission (Source)	0	0	1

Event Distribution by Quartile

Distribution of event types across patient quartiles (2 patients per quartile)