Patient flow diagram

Derivation cohort – Beilinson Hospital

```
┌─────────────────────────┐
│ Assessed for eligibility │
│      (n=12.656)          │
└─────────────────────────┘
            │
            │          ┌────────────────────────────────────────┐
            │          │ Excluded (n=7,064)                     │
            │          │  ♦ Hospitalization less than 48 hours  │
            ├─────────▶│     (n=3,693)                          │
            │          │  ♦ Antibiotic therapy initiated in the │
            │          │     first 48 hours (n=3,058)           │
            │          │  ♦ Rehospitalizations (n=313)          │
            │          └────────────────────────────────────────┘
            ▼
┌─────────────────────────┐
│   Patients included      │
│      (n=5.592)           │
└─────────────────────────┘
```
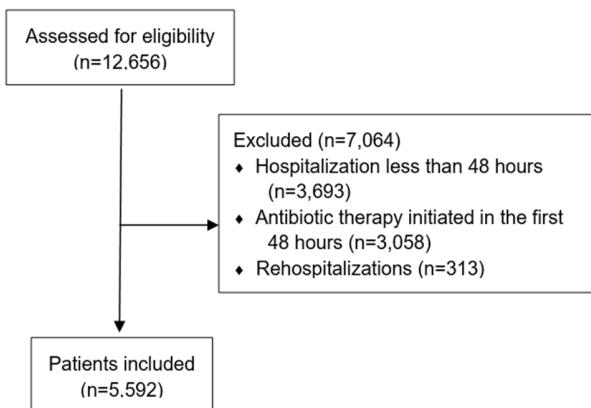
Validation cohort – Hasharon Hospital

```
┌─────────────────────────┐
│ Assessed for eligibility │
│      (n=4.946)           │
└─────────────────────────┘
            │
            │          ┌────────────────────────────────────────┐
            │          │ Excluded (n=1,887)                     │
            │          │  ♦ Hospitalization less than 48 hours  │
            ├─────────▶│     (n=965)                            │
            │          │  ♦ Antibiotic therapy initiated in the │
            │          │     first 48 hours (n=814)             │
            │          │  ♦ Rehospitalizations (n=108)          │
            │          └────────────────────────────────────────┘
            ▼
┌─────────────────────────┐
│   Patients included      │
│      (n=3.059)           │
└─────────────────────────┘
```
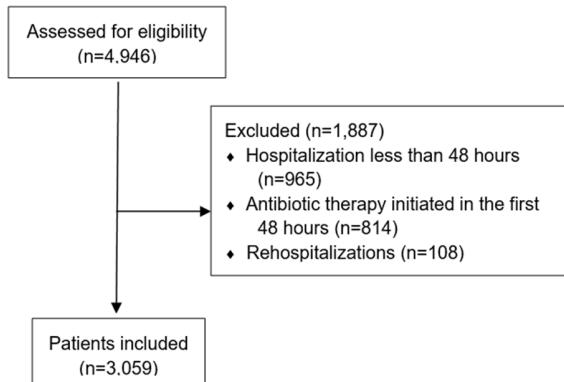
Validation cohort – Rambam Health Care Campus

```
┌─────────────────────────┐
│ Assessed for eligibility │
│      (n=10.734)          │
└─────────────────────────┘
            │
            │          ┌────────────────────────────────────────┐
            │          │ Excluded (n=6,240)                     │
            │          │  ♦ Hospitalization less than 48 hours  │
            ├─────────▶│     (n=2,029)                          │
            │          │  ♦ Antibiotic therapy initiated in the │
            │          │     first 48 hours (n=3,982)           │
            │          │  ♦ Rehospitalizations (n=229)          │
            │          └────────────────────────────────────────┘
            ▼
┌─────────────────────────┐
│   Patients included      │
│      (n=4.494)           │
└─────────────────────────┘
```
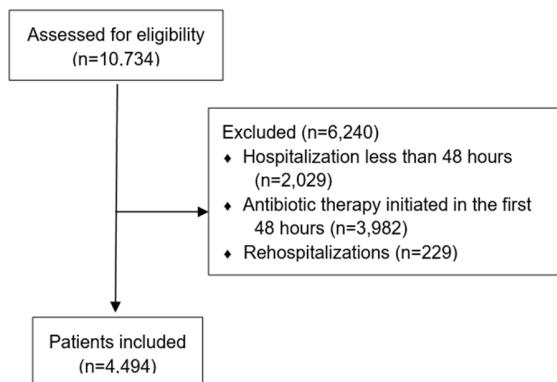
Performance Metrics

Medical Center	Probability Thresholds	Sensitivity	Specificity	Positive Predictive Value	Negative Predictive Value	Accuracy
Beilinson	0.04	0.89	0.29	0.1	0.97	0.34
	0.06	0.76	0.55	0.13	0.96	0.56
	0.085*	0.63	0.72	0.17	0.95	0.72
	0.1	0.52	0.8	0.18	0.95	0.77
Hasharon	0.04	0.87	0.37	0.06	0.98	0.4
	0.06	0.72	0.65	0.09	0.98	0.65
	0.085*	0.49	0.79	0.10	0.97	0.78
	0.1	0.45	0.84	0.12	0.97	0.82
Rambam Health Care Campus	0.04	0.96	0.13	0.09	0.97	0.20
	0.06	0.84	0.45	0.13	0.97	0.49
	0.085*	0.69	0.69	0.17	0.96	0.69
	0.1	0.62	0.77	0.20	0.95	0.76

* Youden's index