

MHA/ONL *PatientCareLink*

Nursing-Sensitive Measure Report

Statistical Appendix

April 2016

Statistical Appendix Contents

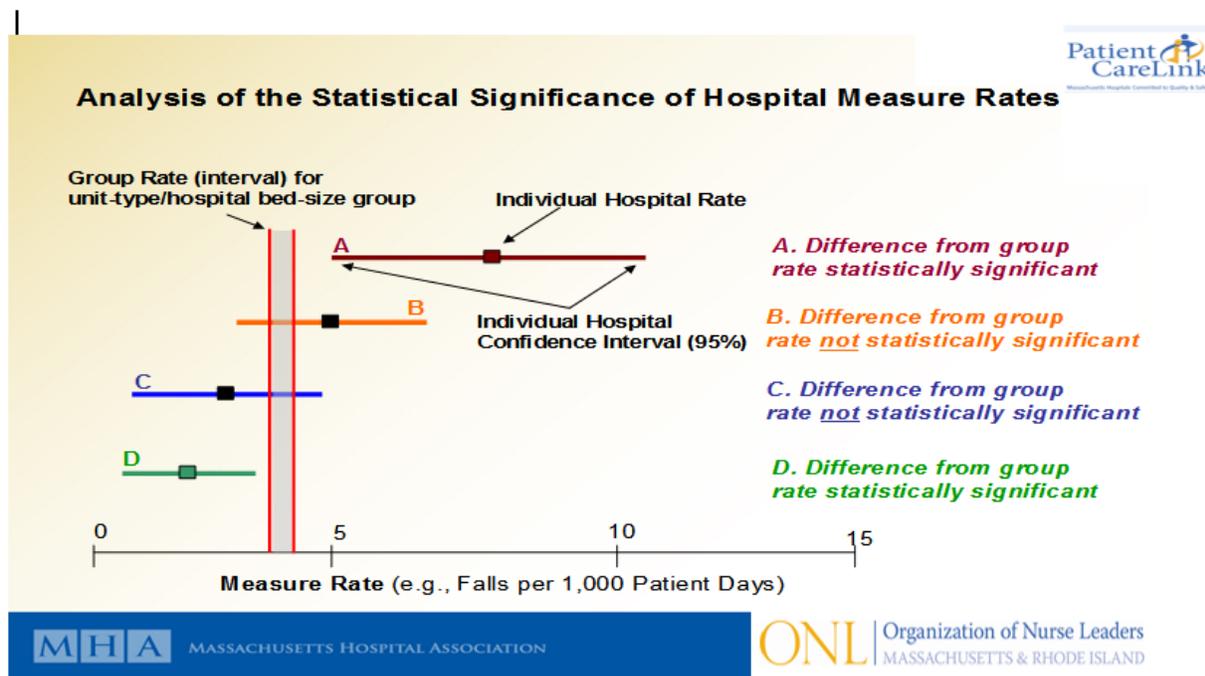
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Analysis of the Statistical Significance of Hospital Measure Rates

Because the measure rates for the hospitals are for a specific period of time, and because there is variability in performance over time because of chance and other factors, there is a degree of uncertainty about the extent to which a hospital's measure rate may reflect its true underlying performance. Without taking this uncertainty into account, we cannot conclude that a hospital with a measure rate that is higher or lower than the group rate is truly performing at a worse or better rate than the group.

Statisticians use confidence intervals to account for this uncertainty. A confidence interval is a numeric range around the estimate represented by the hospital's measure rate, calculated to provide a specified level of confidence that the interval includes the true underlying performance of the hospital. The confidence level chosen for this analysis, 95% confidence, means that, in repeated collection and analysis of similar data, 95% of the resulting confidence intervals will include the true rate. The use and interpretation of confidence intervals in the nursing-sensitive measures is illustrated below. For any hospital (A, B, C, or D), the measure rate represented by the square is accompanied by a confidence interval (horizontal line). When a hospital's confidence interval does not intersect the group interval, represented by the vertical lines (hospitals A and D in the illustration), we can say that the difference between the hospital rate and the group rate is statistically significant and likely represents a true difference in performance. When the hospital's interval completely crosses the group interval (hospitals B and C in the illustration), the difference is not statistically significant. (When a hospital's interval extends only a small distance into the group interval, the difference may be statistically significant. Additional calculation is required.)

The confidence level of 95% applies to the confidence interval for each individual hospital. In a group of 20 hospitals, one would expect, on average, that one confidence interval does not actually include the hospital's true rate. Hospitals' confidence intervals will vary in width because, among other factors, the measure rate is based on more or fewer observations (i.e., patient days). Abt Associates Inc. advised MHA on the analytic approach and performed the statistical analysis.



Hospitals will be found within the section for their bed-size group. Hospitals are listed alphabetically within bed-size groups below. Not all hospitals will have data for each unit-type. The data graphs are presented in order of hospital-bed size group, low to high.

Acute Care Hospitals

<i>Less than 100 Beds</i>	<i>200 - 299 Beds</i>
Athol Hospital Baystate Franklin Medical Center Baystate Mary Lane Hospital Baystate Noble Hospital Baystate Wing Hospital Beth Israel Deaconess Hospital - Milton Beth Israel Deaconess Hospital - Needham Clinton Hospital Fairview Hospital Falmouth Hospital Marlborough Hospital Massachusetts Eye & Ear Nashoba Valley Medical Center Northeast Health System - Addison Gilbert Hospital Southcoast Hospitals Group - Tobey Hospital	Berkshire Medical Center Cape Cod Hospital Good Samaritan Medical Center Holy Family Hospital and Medical Center Mount Auburn Hospital Newton-Wellesley Hospital North Shore Medical Center - Salem Hospital Northeast Health System - Beverly Hospital Norwood Hospital Saint Vincent Hospital Signature Healthcare Brockton Hospital Winchester Hospital
	<i>300 - 399 Beds</i>
<div style="background-color: #4F81BD; color: white; text-align: center; padding: 5px; margin-bottom: 5px;"><i>100 - 199 Beds</i></div> Anna Jaques Hospital Beth Israel Deaconess Hospital-Plymouth Brigham and Women's - Faulkner Hospital Cambridge Health Alliance - The Cambridge Hospital Cambridge Health Alliance - Whidden Hospital Carney Hospital Cooley Dickinson Hospital Emerson Hospital Hallmark Health System - Lawrence Memorial Hospital Hallmark Health System - Melrose Wakefield Hospital Harrington Memorial Hospital HealthAlliance (UMASS Memorial HealthAlliance) - Leominster Heywood Hospital Holy Family Hospital at Merrimack Valley Holyoke Medical Center Lawrence General Hospital MetroWest Medical Center - Framingham Campus MetroWest Medical Center - Leonard Morse Campus Milford Regional Medical Center Morton Hospital New England Baptist Hospital North Shore Medical Center - Union Hospital Saint Anne's Hospital Sturdy Memorial Hospital	Lahey Hospital & Medical Center Lowell General Hospital Sisters of Providence Health System - Mercy Medical Center South Shore Hospital Southcoast Hospitals Group - Charlton Memorial Southcoast Hospitals Group - St. Luke's Hospital St. Elizabeth's Medical Center Tufts Medical Center
	<i>500 or More Beds</i>
	Baystate Medical Center Beth Israel Deaconess Medical Center Boston Medical Center Brigham and Women's Hospital Massachusetts General Hospital UMass Memorial Medical Center

Hospitals will be found within the section for their hospital type. Hospitals are listed alphabetically within hospital type below. Not all hospitals will have data for each unit-type. Specialty hospital data graphs follow the acute care hospital data graphs in this document.

Specialty Hospitals

Rehabilitation Hospitals

The Center for Rehabilitation at Berkshire Medical Center
Braintree Rehabilitation Center
Fairlawn Rehabilitation Hospital
HealthAlliance (UMASS Memorial HealthAlliance) - Burbank
HEALTHSOUTH Rehabilitation Hospital of Western MA
Weldon Rehabilitation Hospital at Mercy Medical Center
New England Rehabilitation Hospital
Bronson Rehabilitation Center at Baystate Noble Hospital
Southeast Rehabilitation Hospital at Southcoast Hospitals Group - Charlton Hospital
Spaulding Rehabilitation Hospital Boston
Spaulding Rehabilitation Hospital Cape Cod

Long-Term Acute Care Hospitals

Hebrew Rehabilitation Center
Kindred Hospital Northeast - Stoughton
New England Sinai Hospital
Spaulding Hospital for Continuing Medical Care Cambridge
Tewksbury Hospital

Acute Care Hospitals

NSC-2 Pressure Ulcer Prevalence

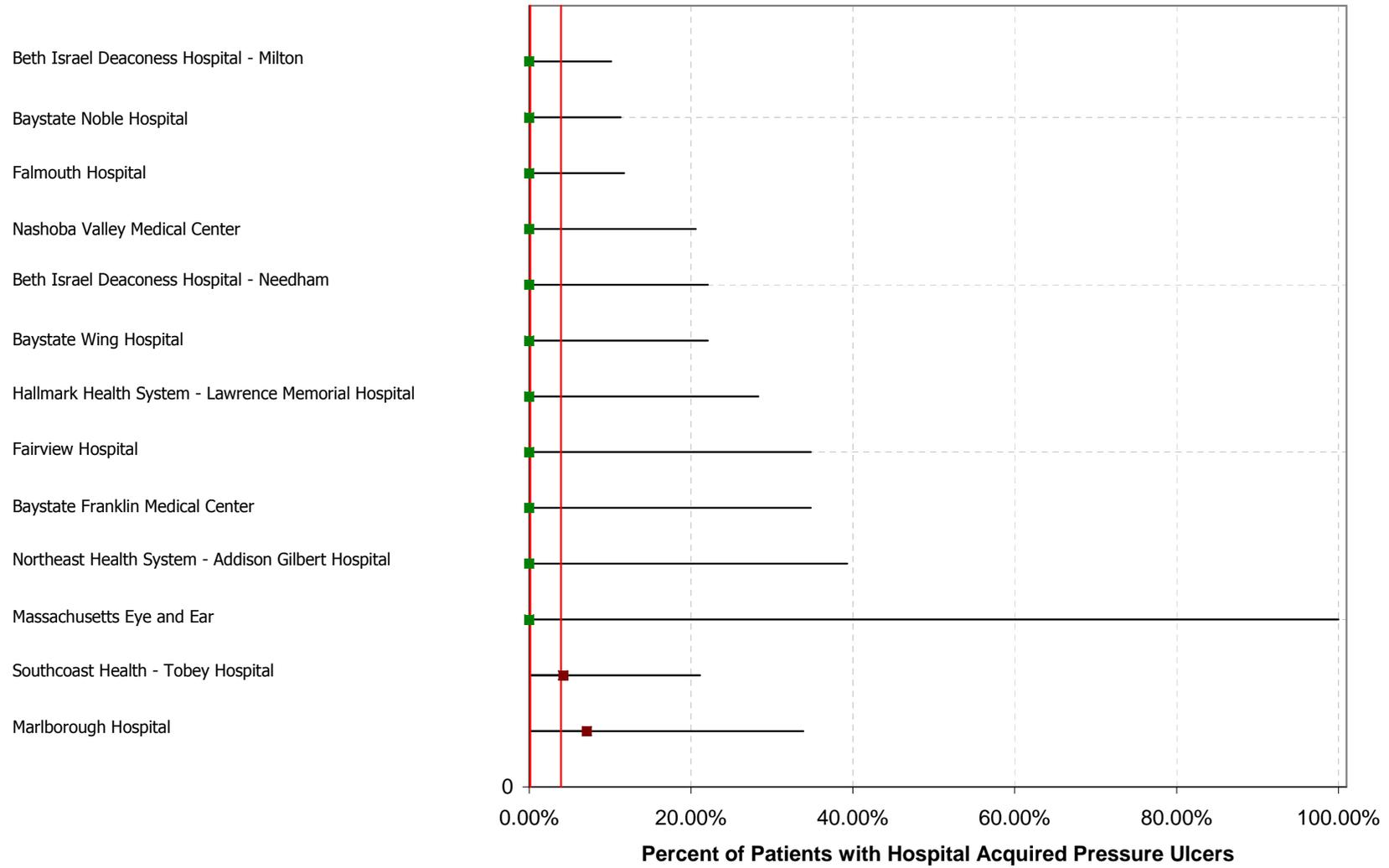
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March 2015, June 2015*, September 2015 and
December 2015*

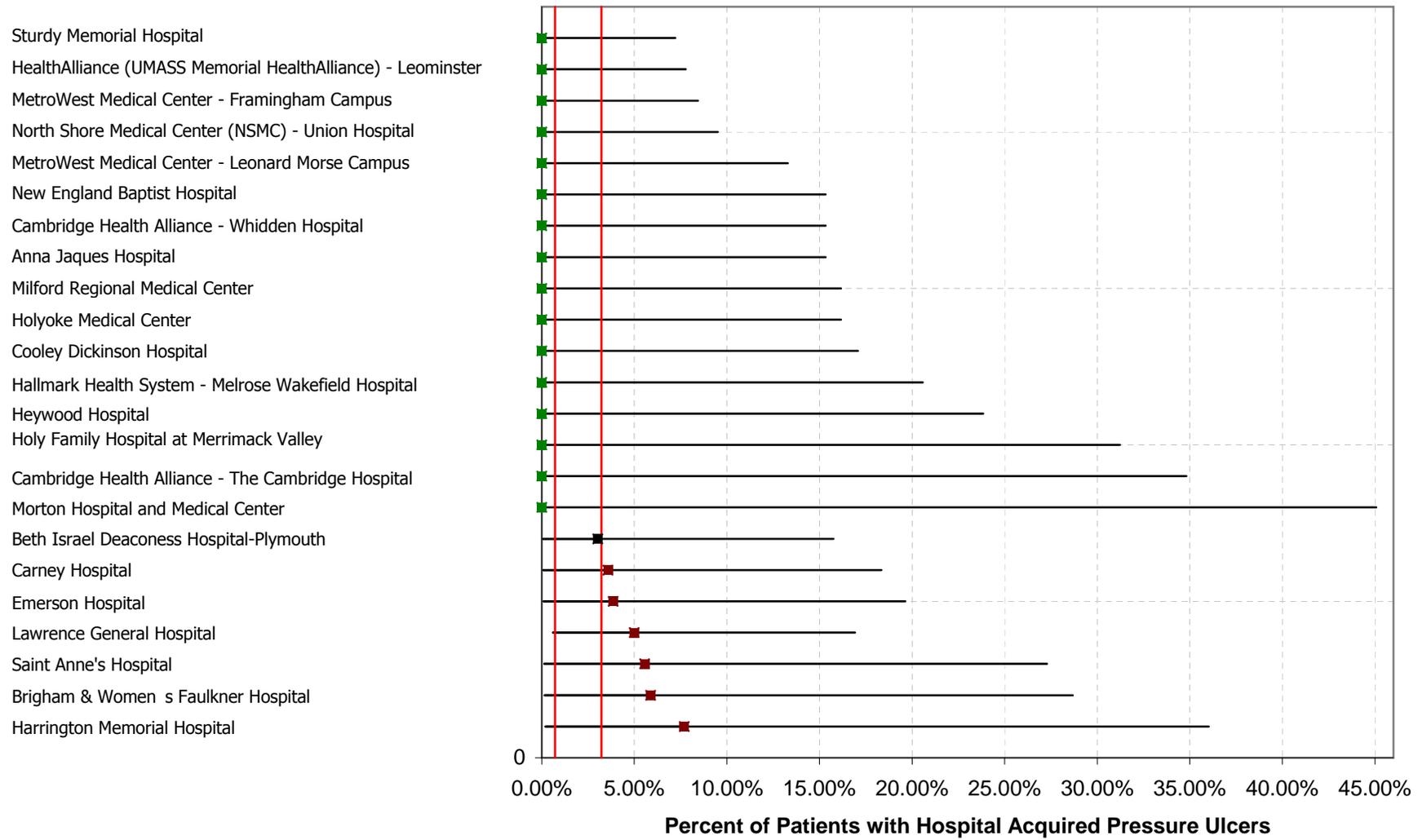
* Optional studies

April 2016

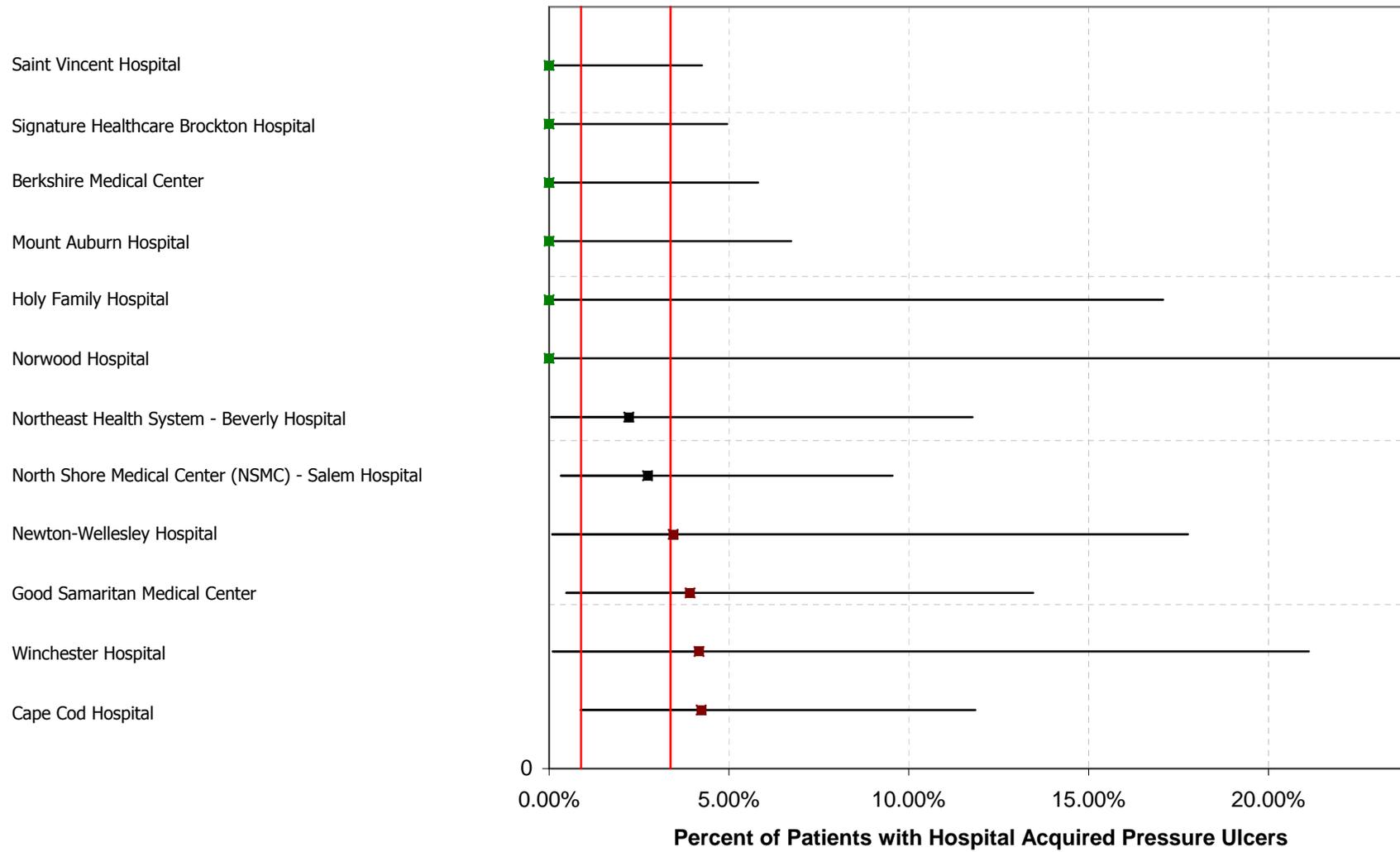
Adult Critical Care Units, Less than 100 beds



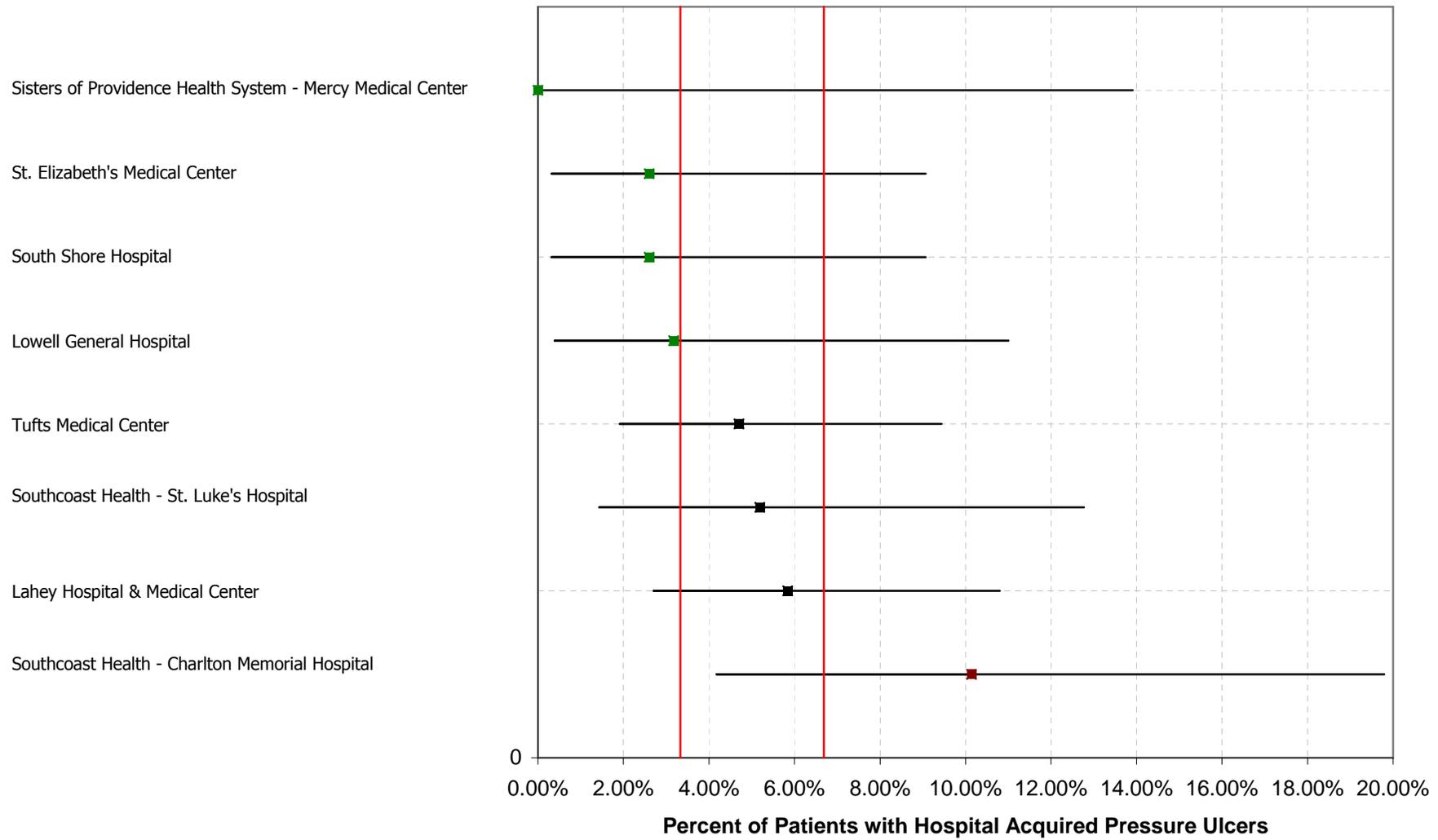
Adult Critical Care Units, 100-199 beds



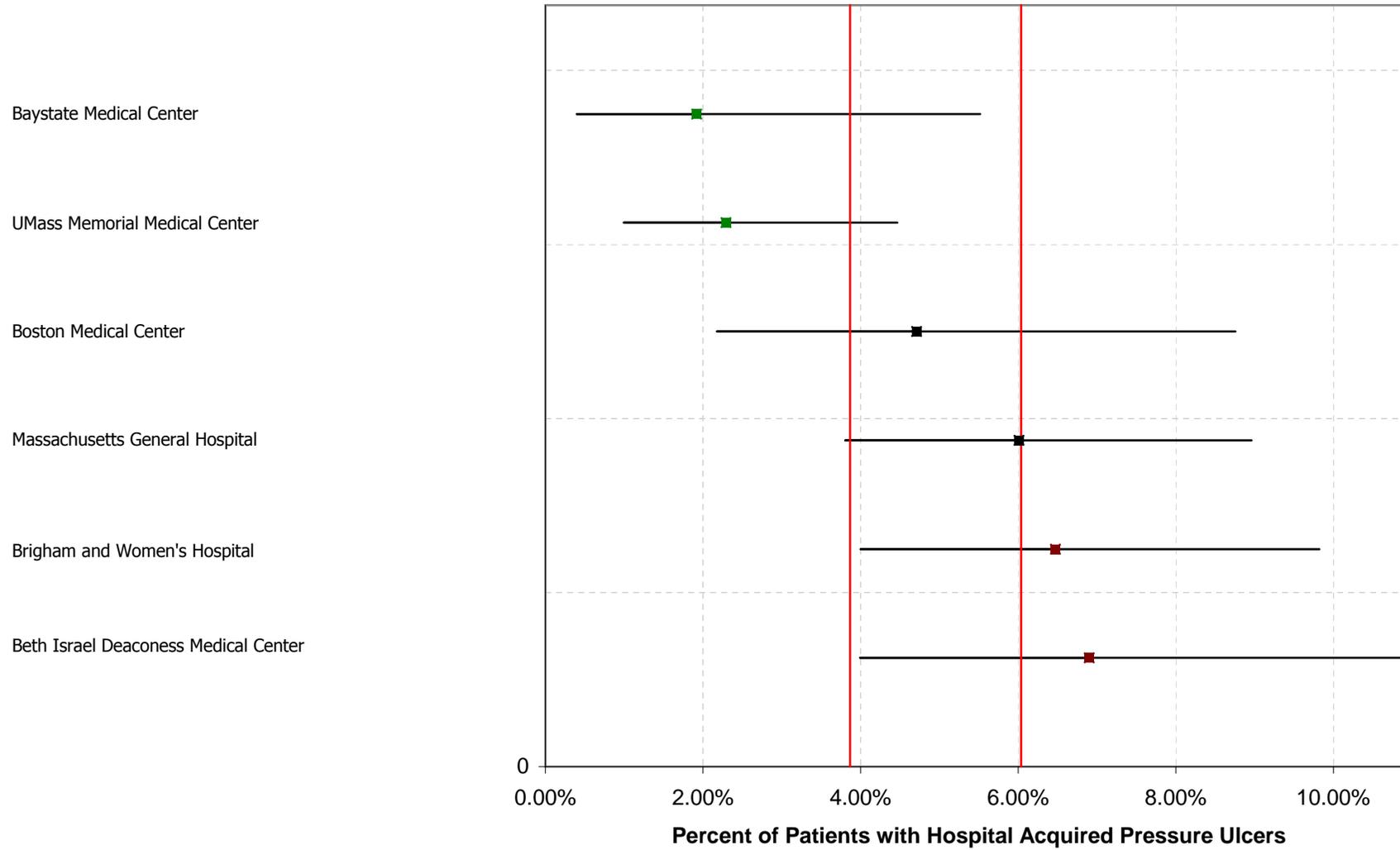
Adult Critical Care Units, 200-299 beds



Adult Critical Care Units, 300-399 beds

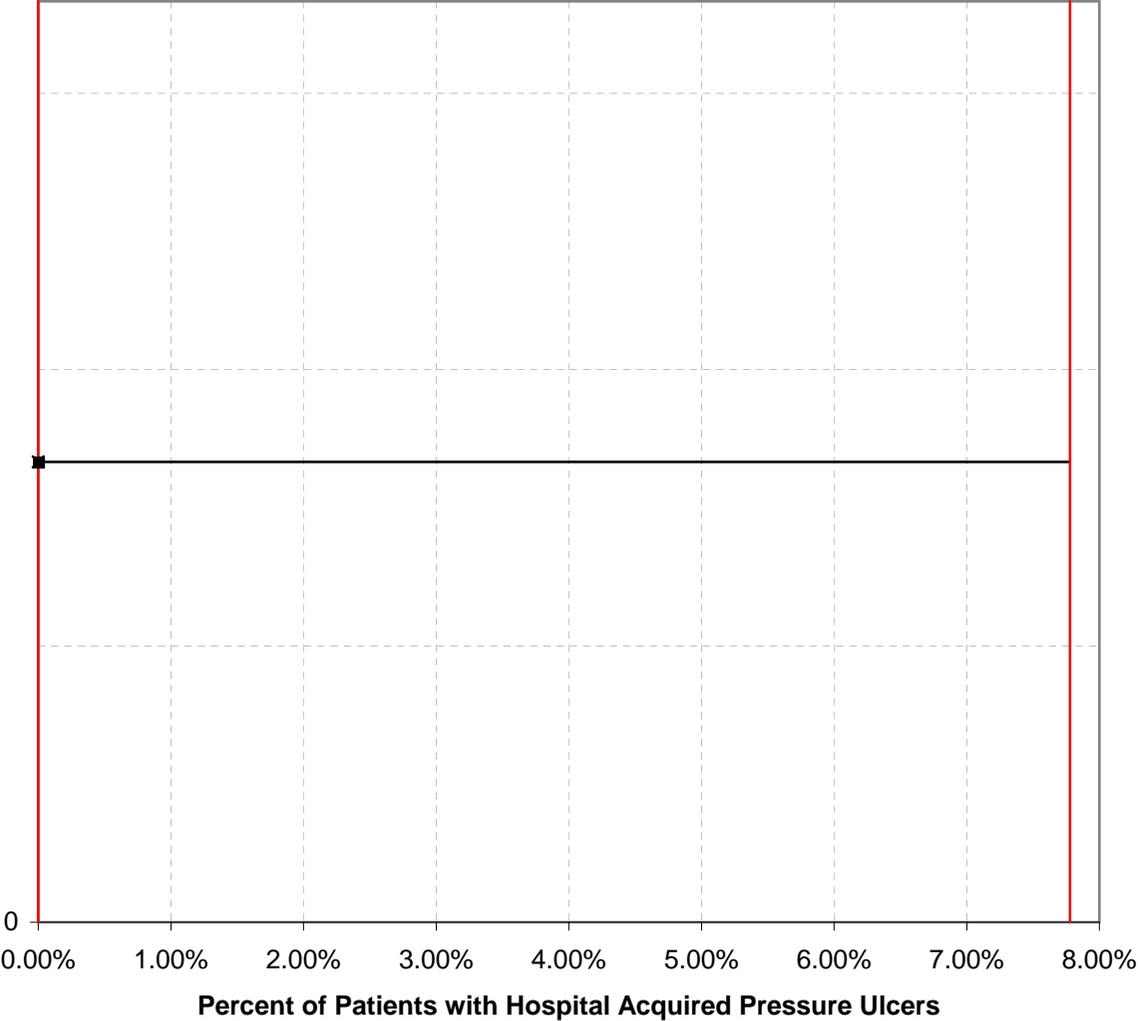


Adult Critical Care Units, More than 500 beds

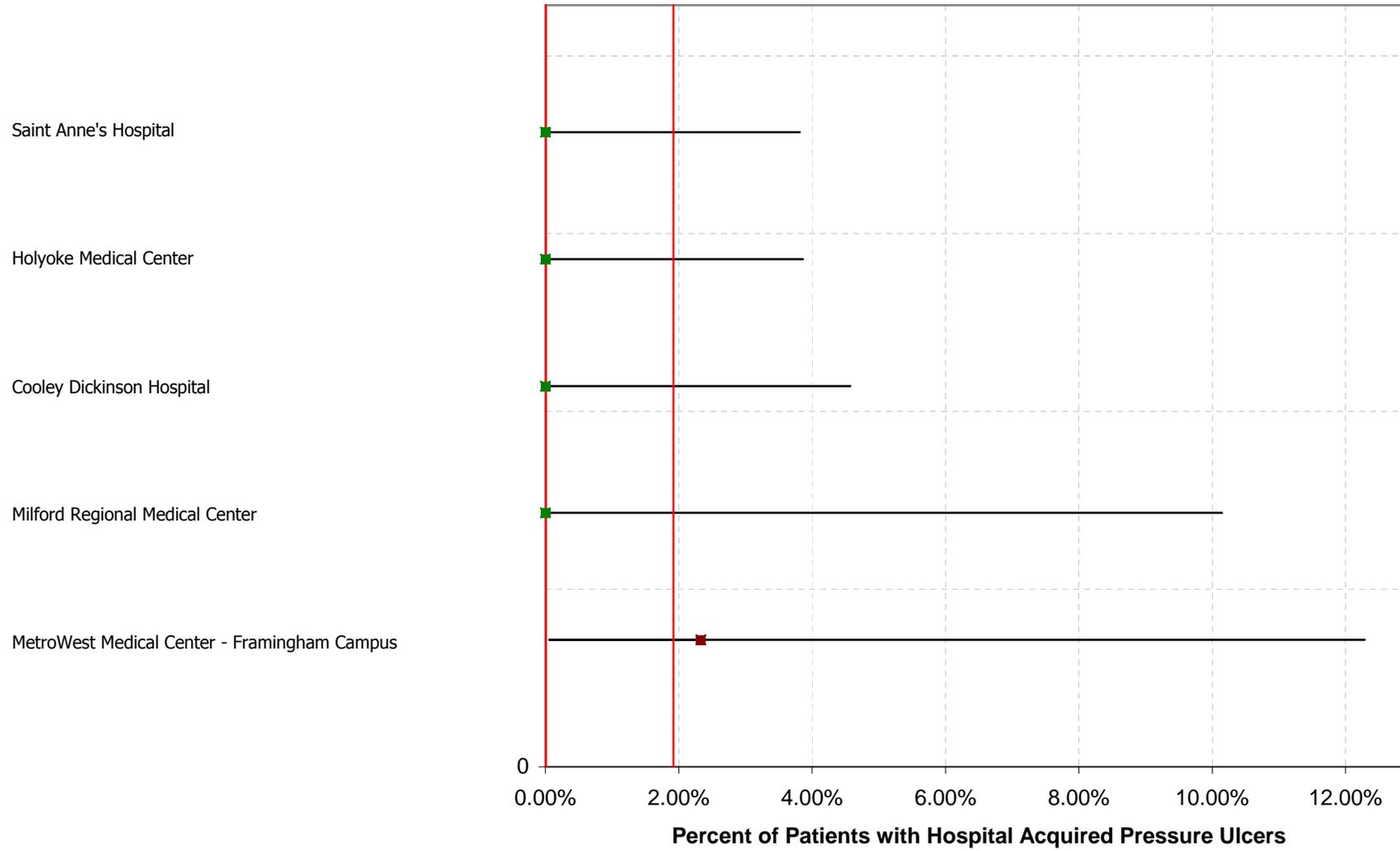


Adult Step-Down Units, Less than 100 beds

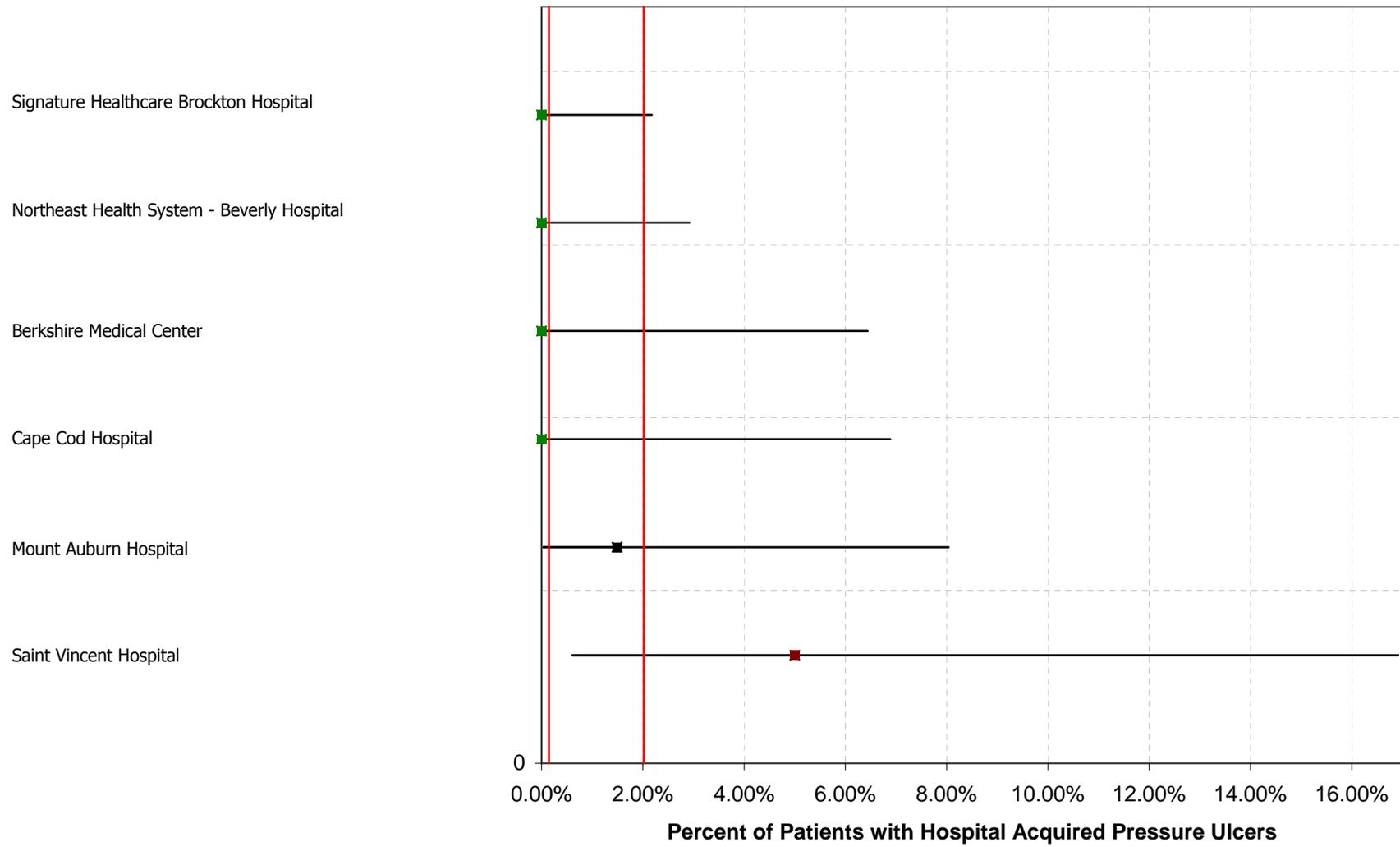
Baystate Noble Hospital



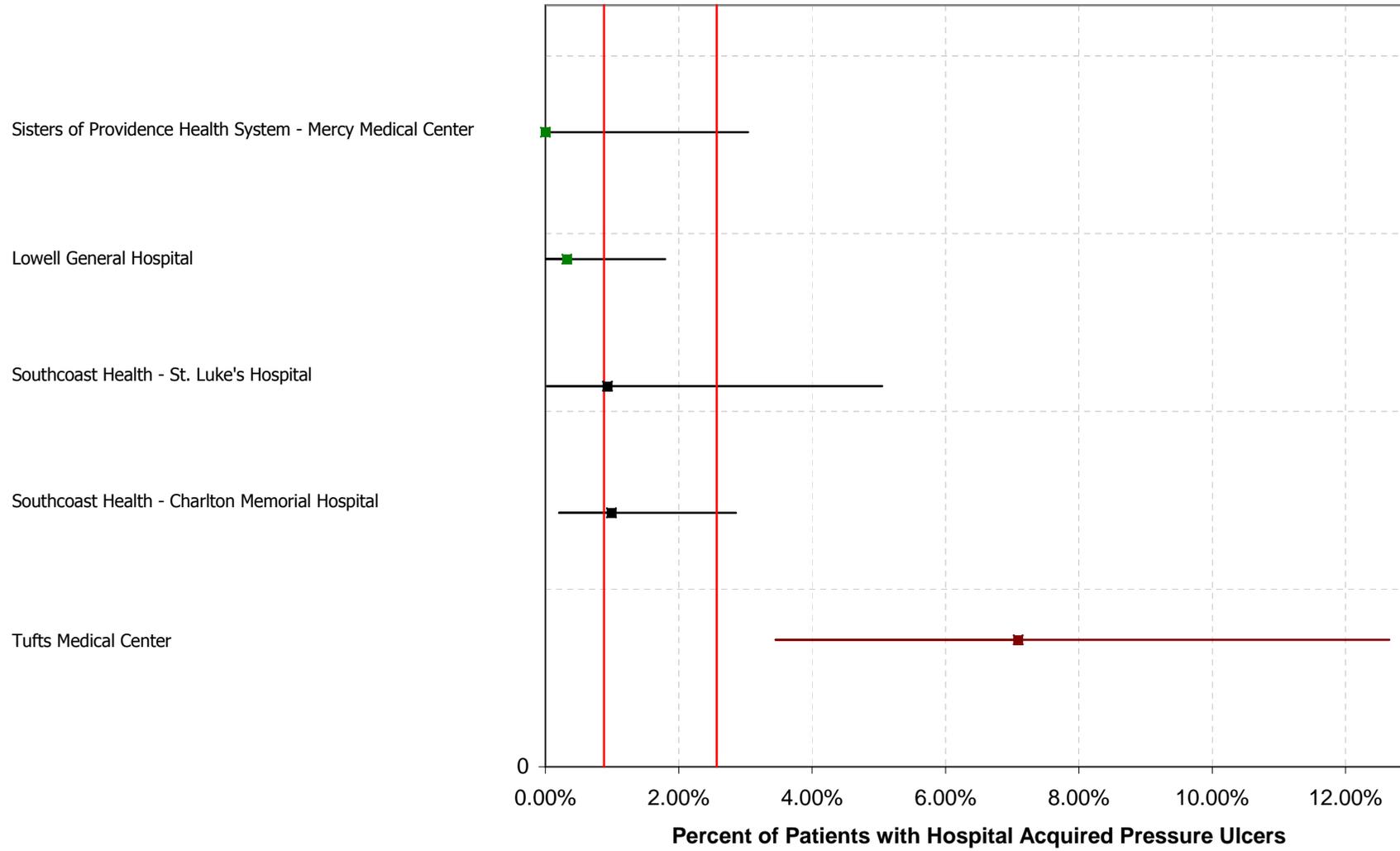
Adult Step-Down Units, 100-199 beds



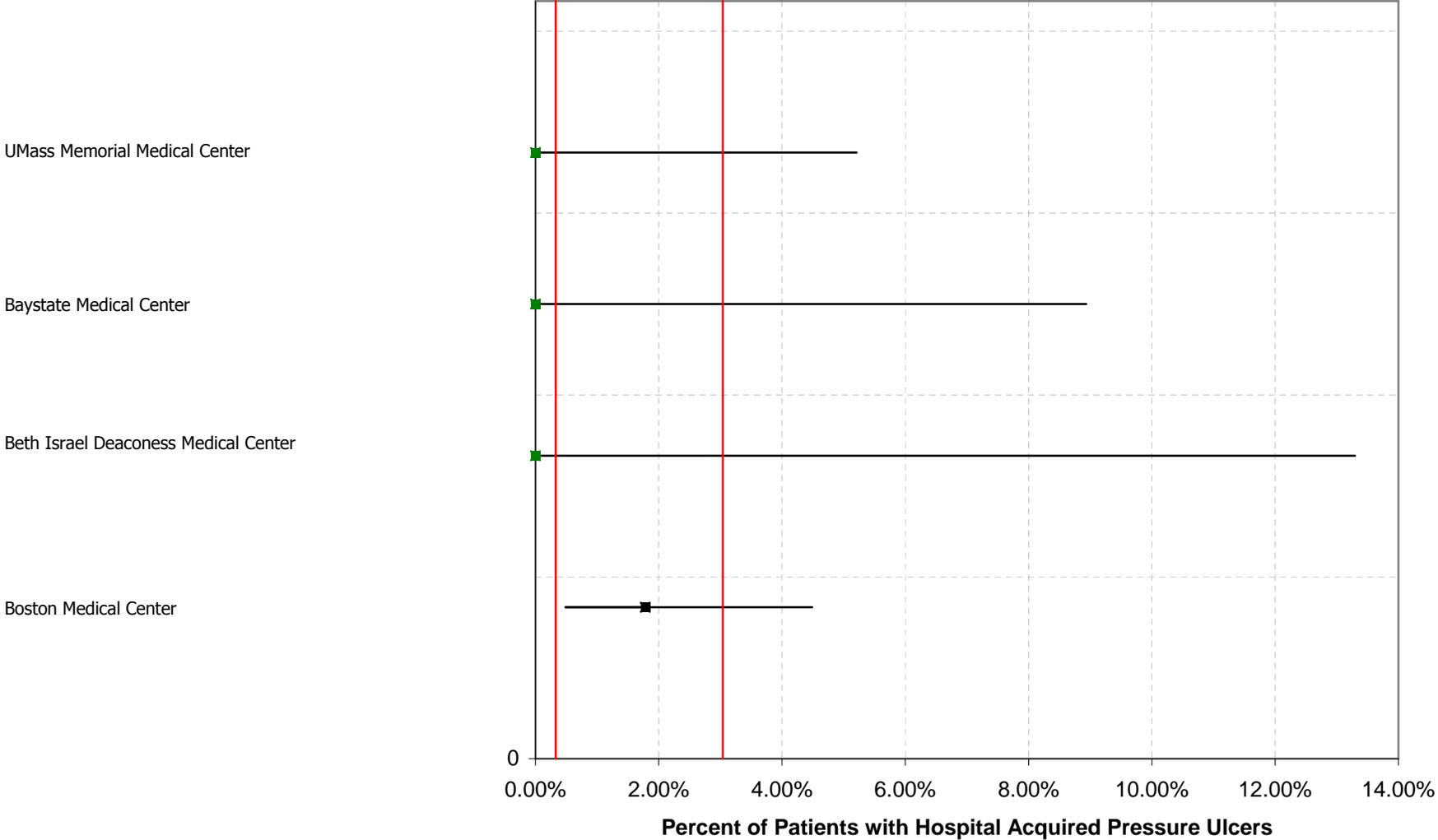
Adult Step-Down Units, 200-299 beds



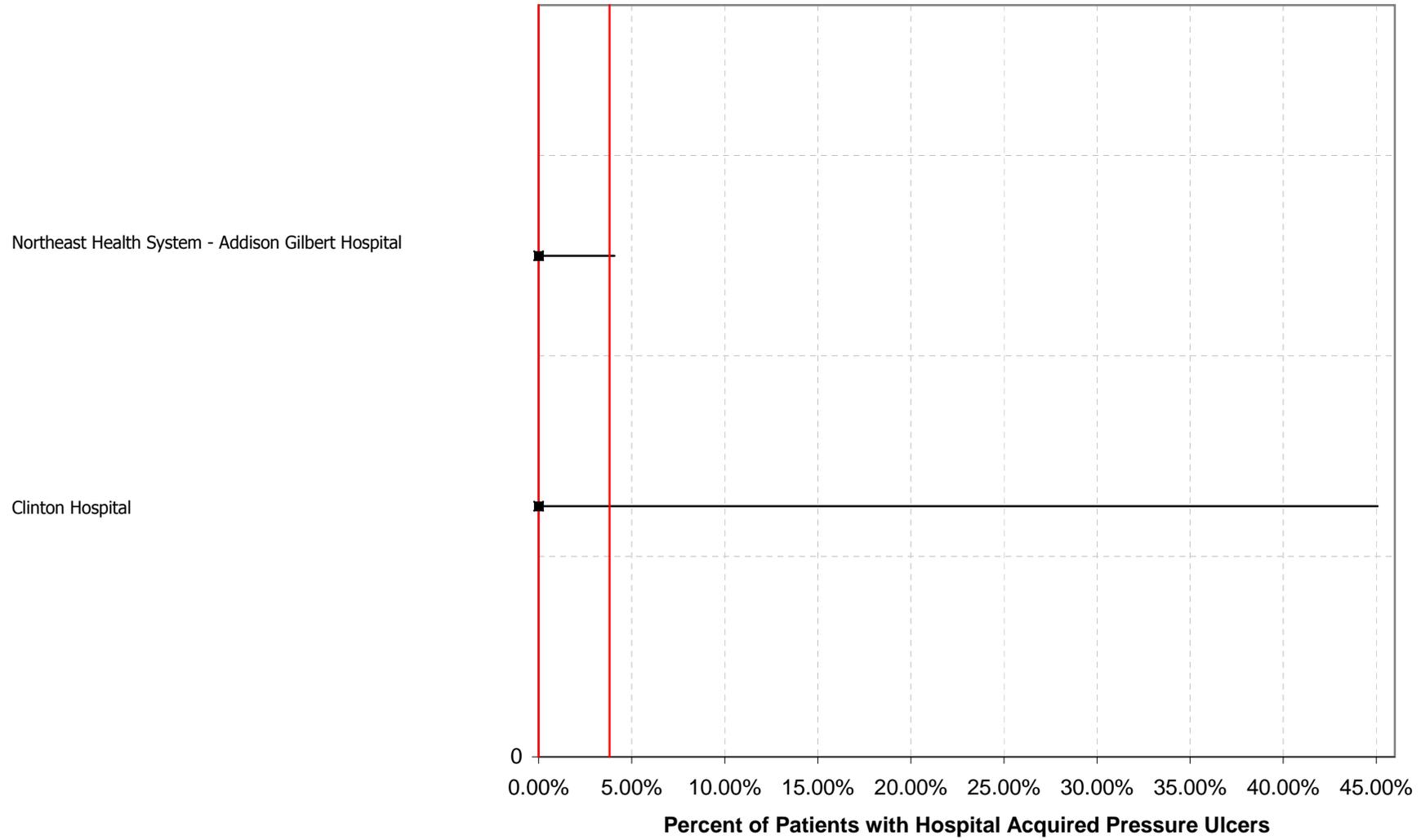
Adult Step-Down Units, 300-399 beds



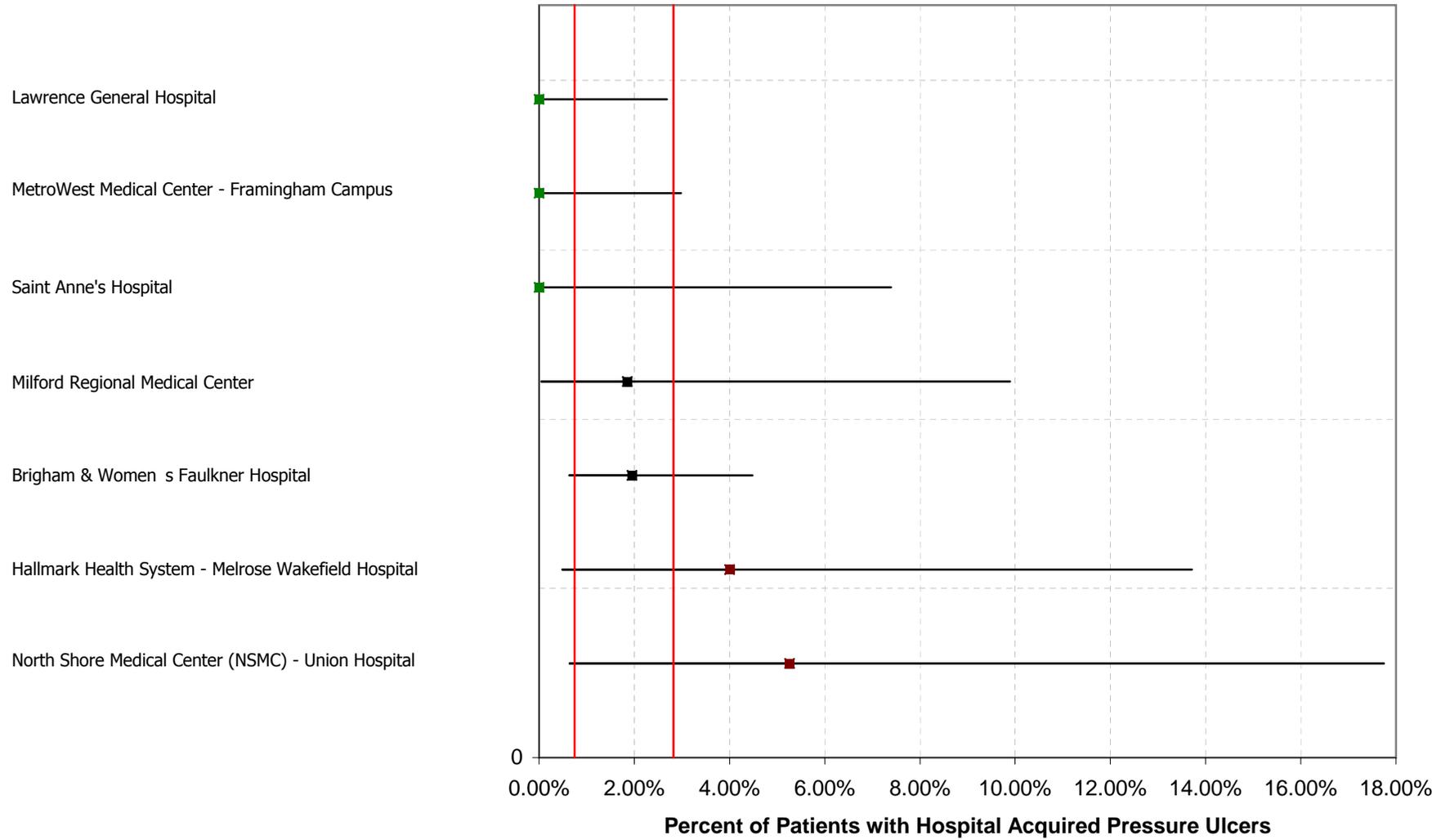
Adult Step-Down Units, More than 500 beds



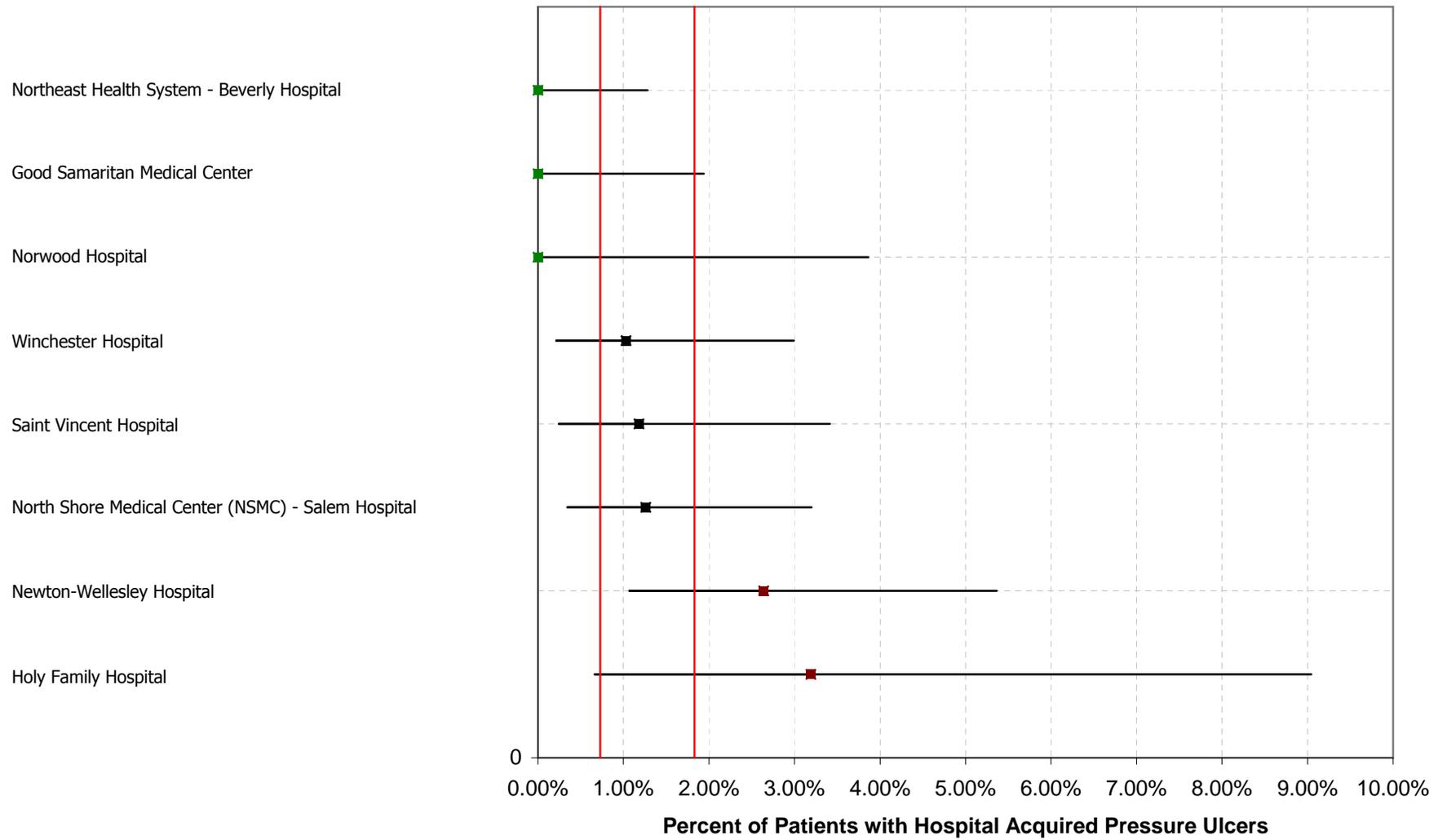
Adult Medical Units, Less than 100 beds



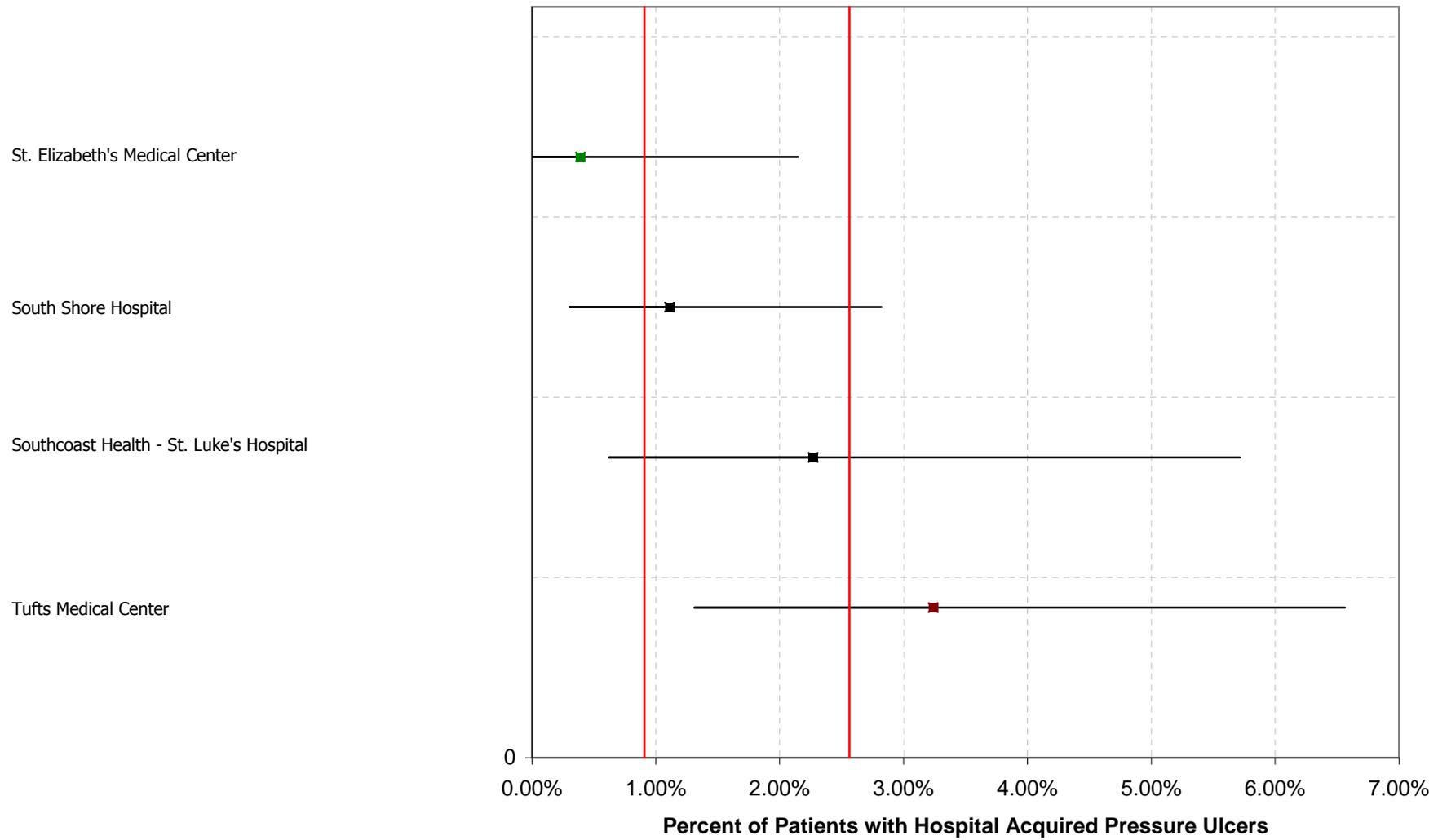
Adult Medical Units, 100-199 beds



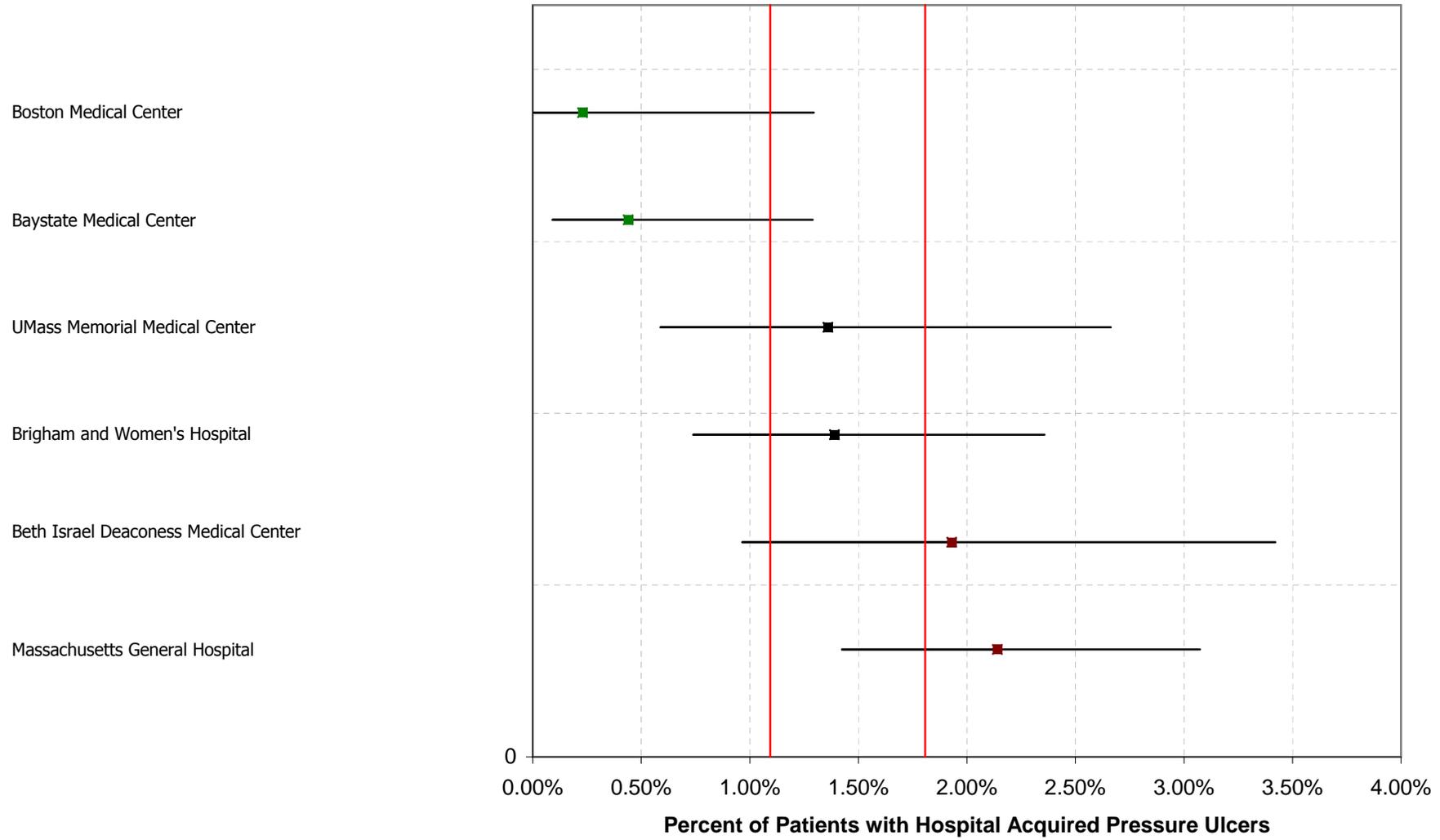
Adult Medical Units, 200-299 beds



Adult Medical Units, 300-399 beds

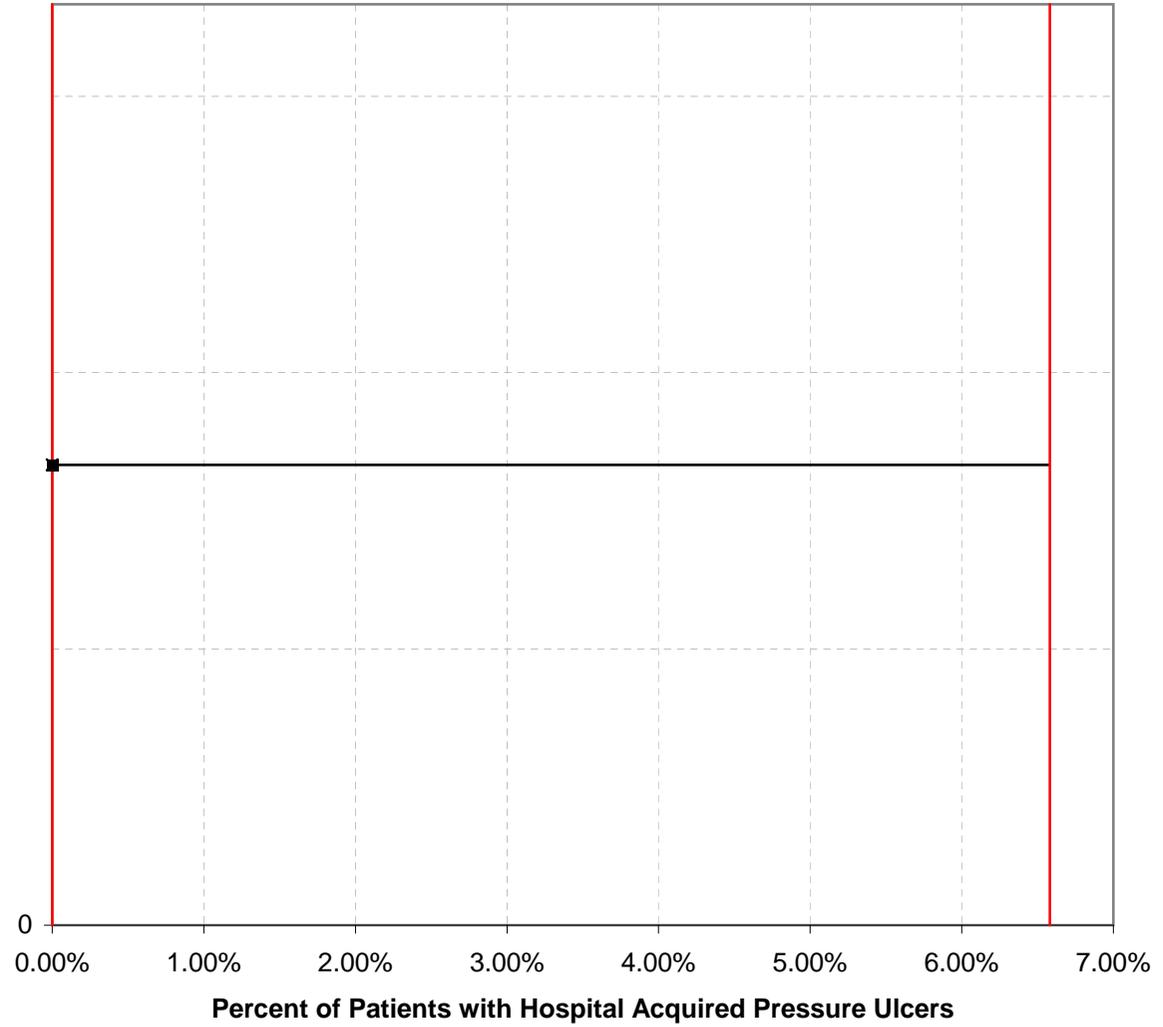


Adult Medical Units, More than 500 beds

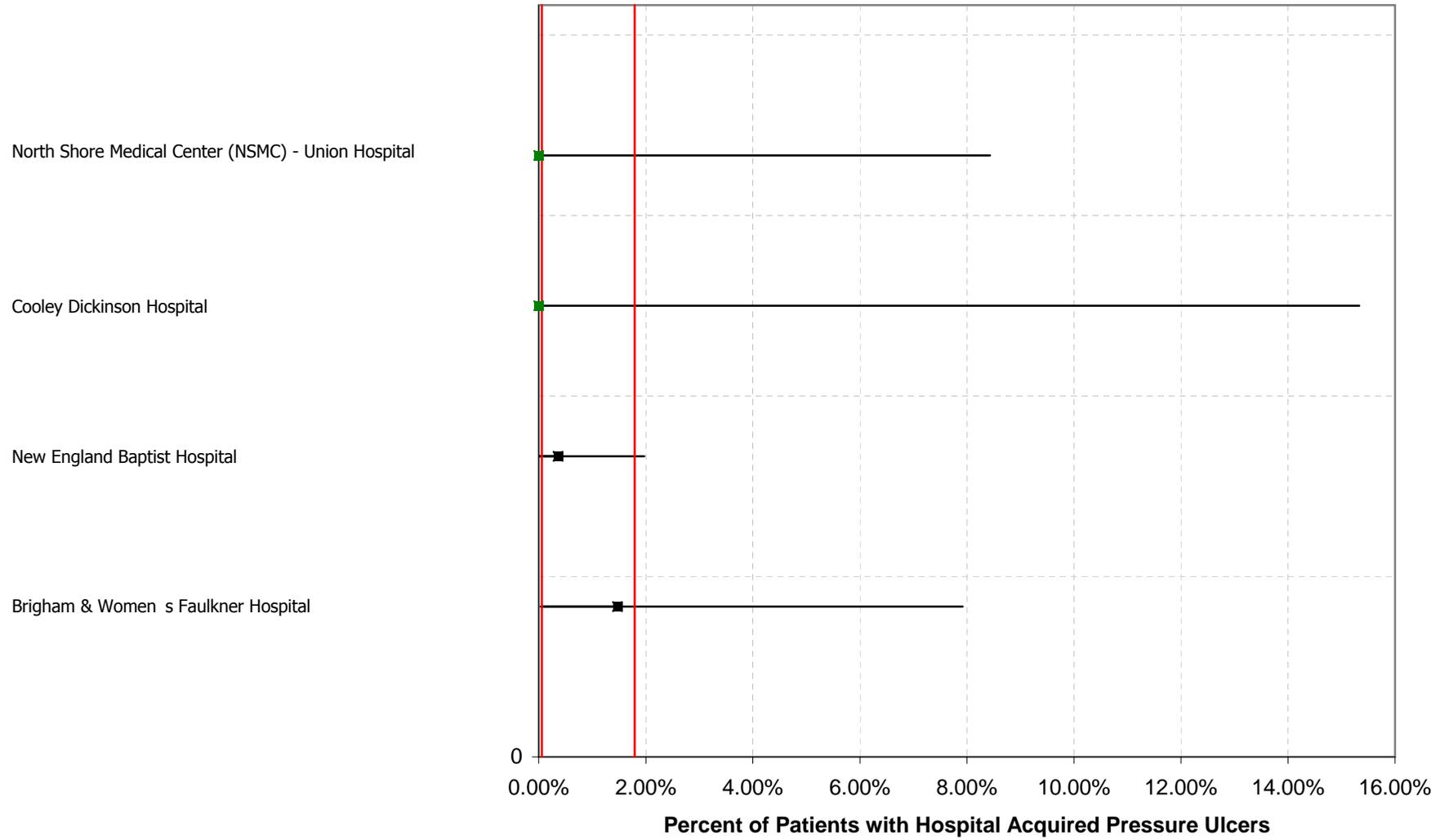


Adult Surgical Units, Less than 100 beds

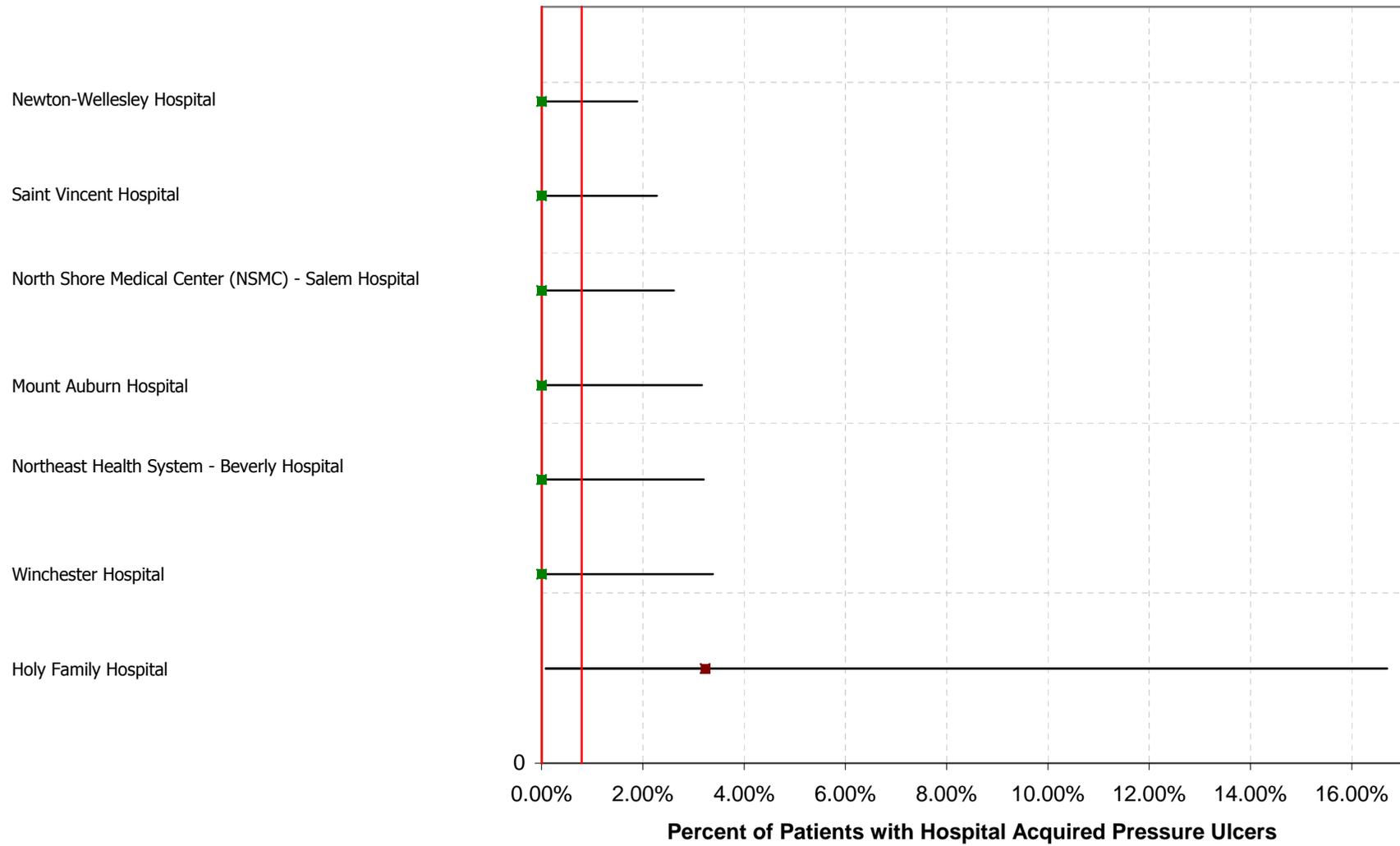
Falmouth Hospital



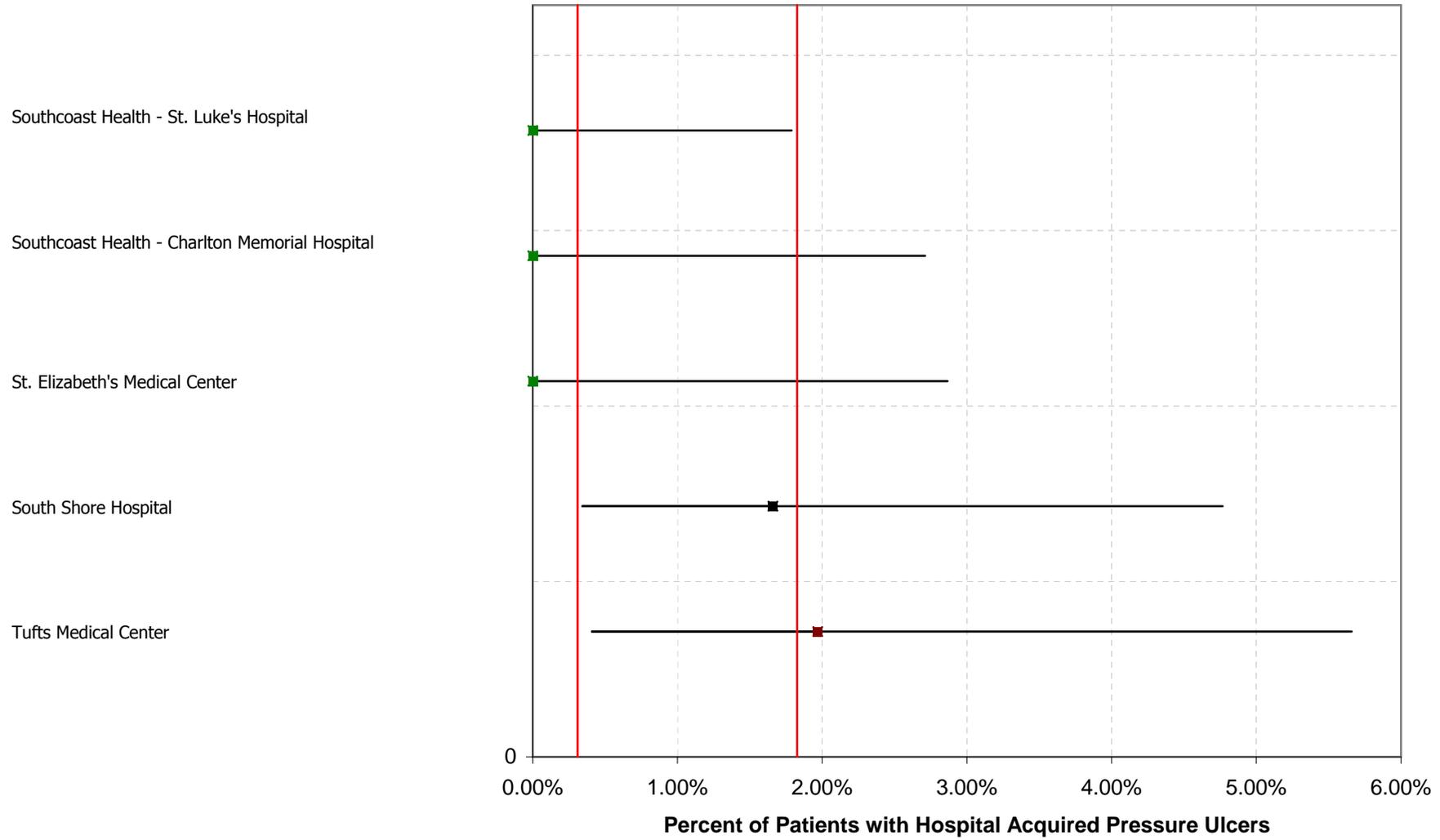
Adult Surgical Units, 100-199 beds



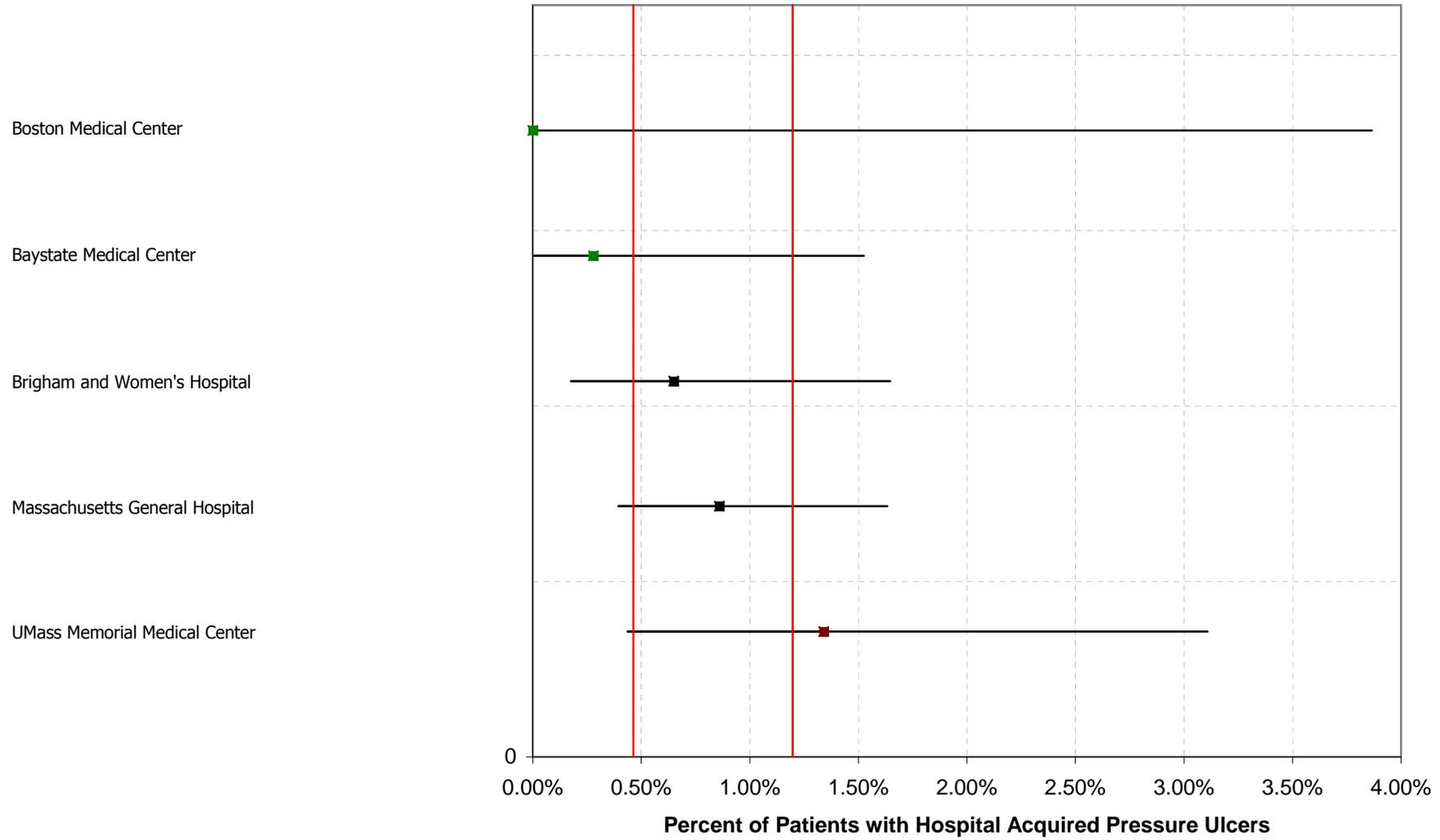
Adult Surgical Units, 200-299 beds



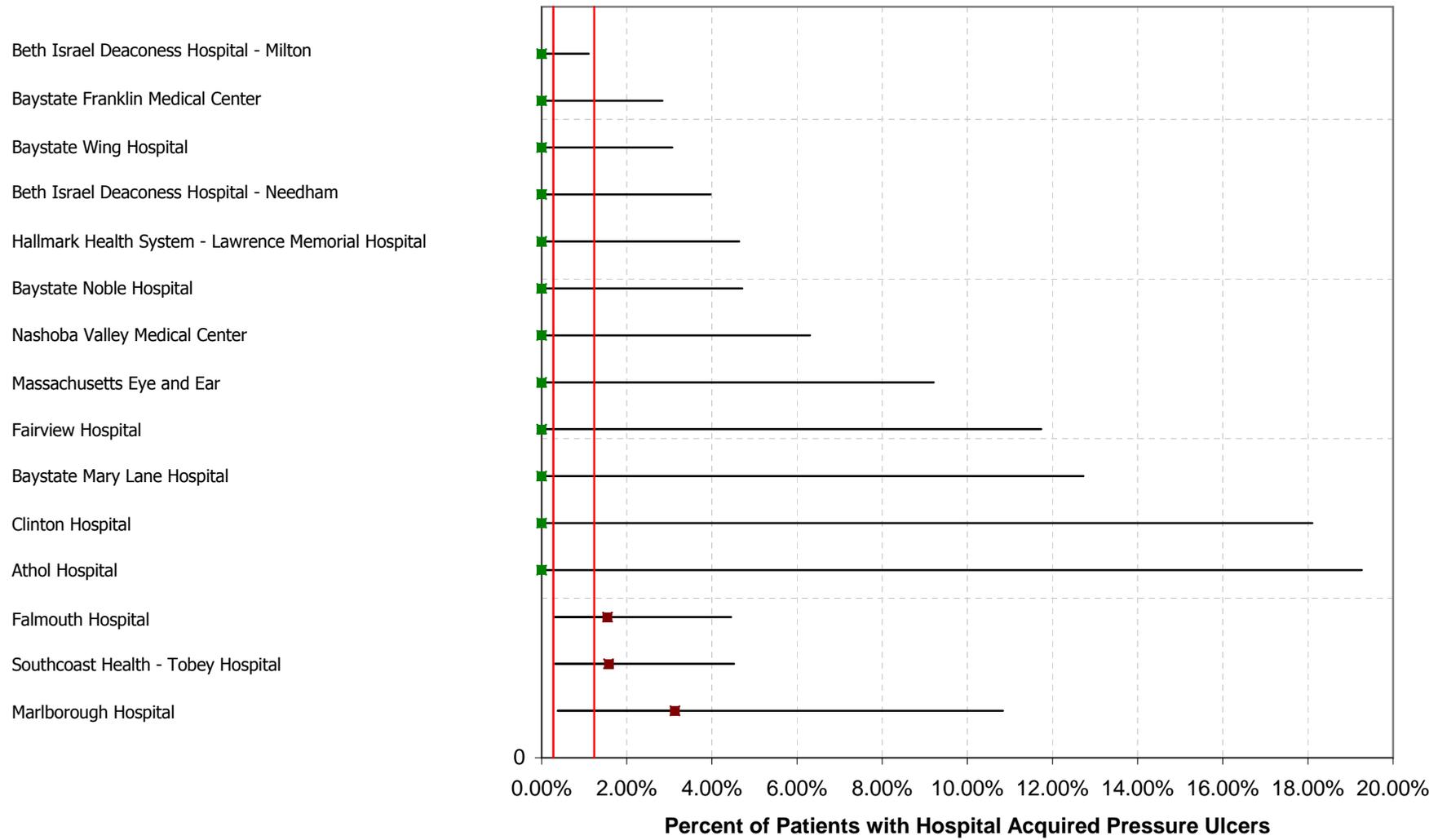
Adult Surgical Units, 300-399 beds



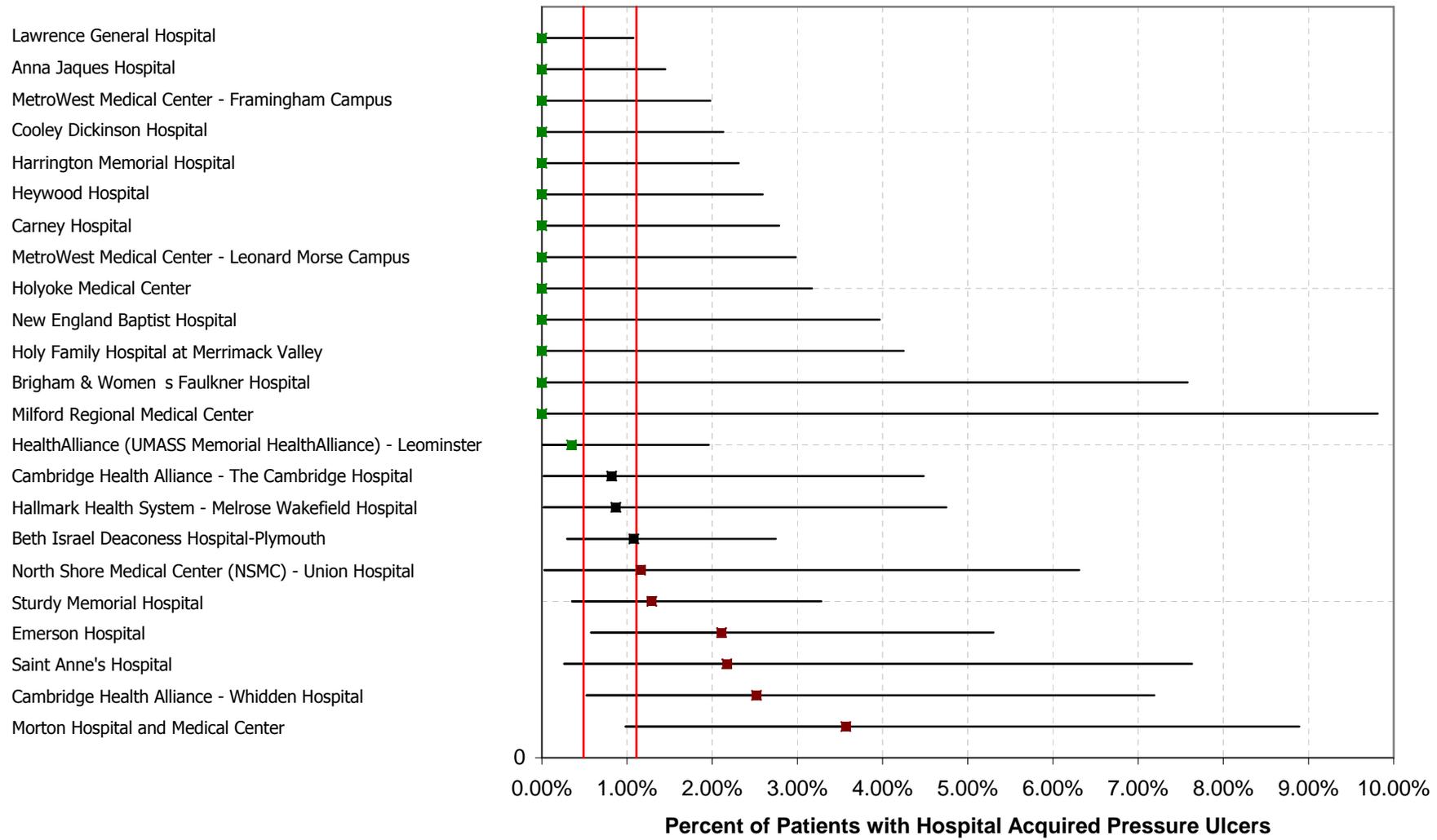
Adult Surgical Units, More than 500 beds



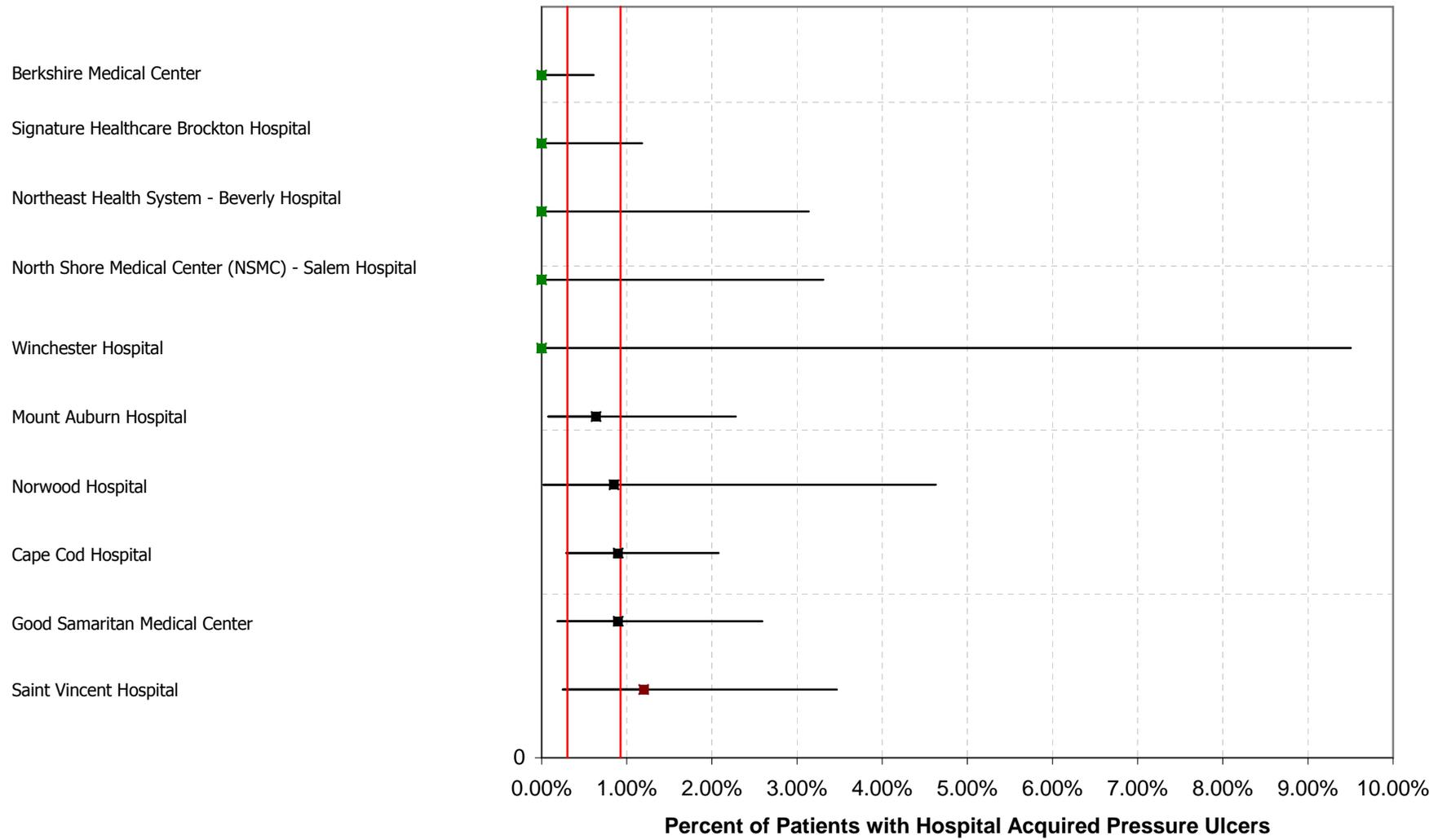
Adult Medical-Surgical Units, Less than 100 beds



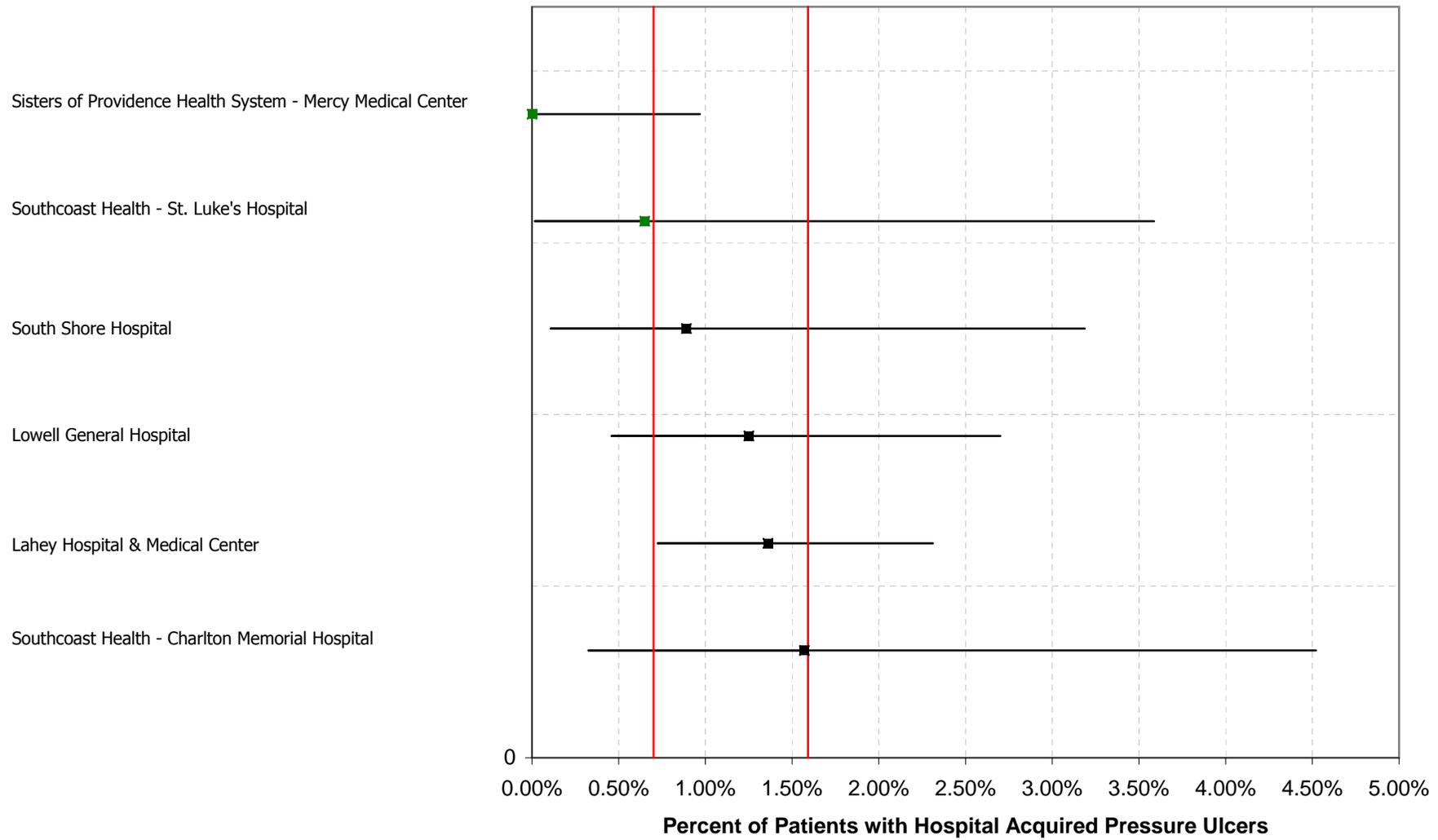
Adult Medical-Surgical Units, 100-199 beds



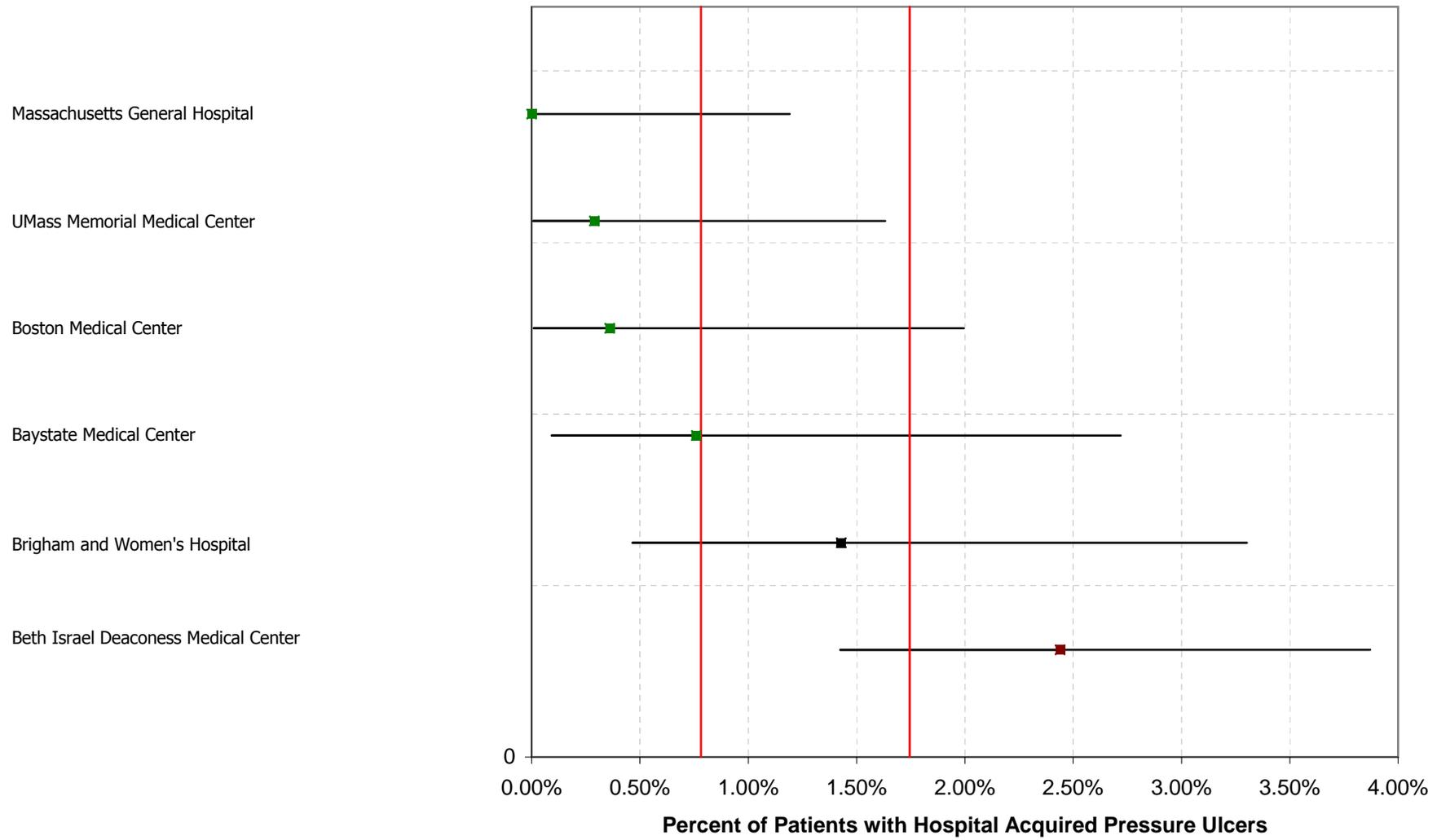
Adult Medical-Surgical Units, 200-299 beds



Adult Medical-Surgical Units, 300-399 beds

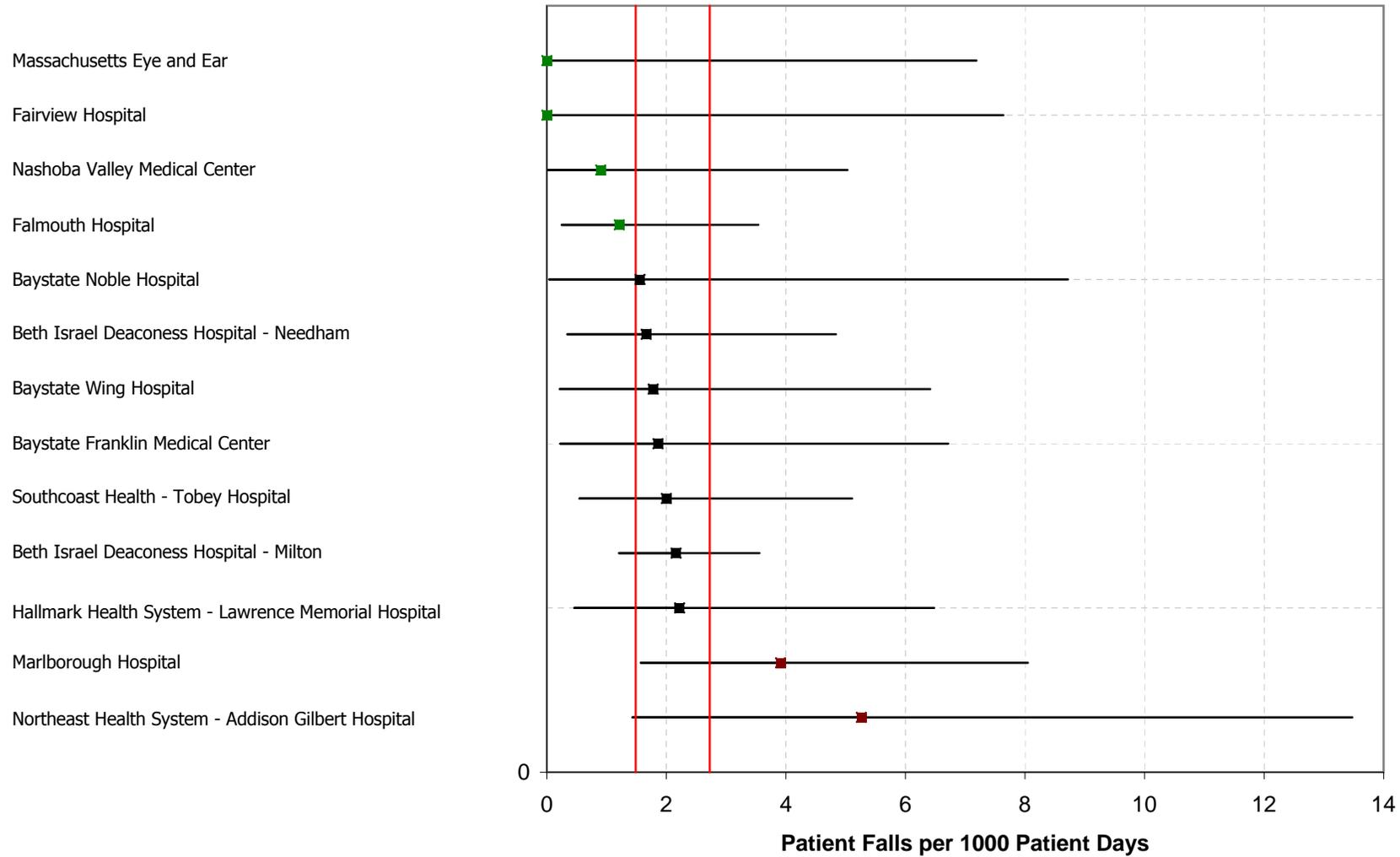


Adult Medical-Surgical Units, More than 500 beds

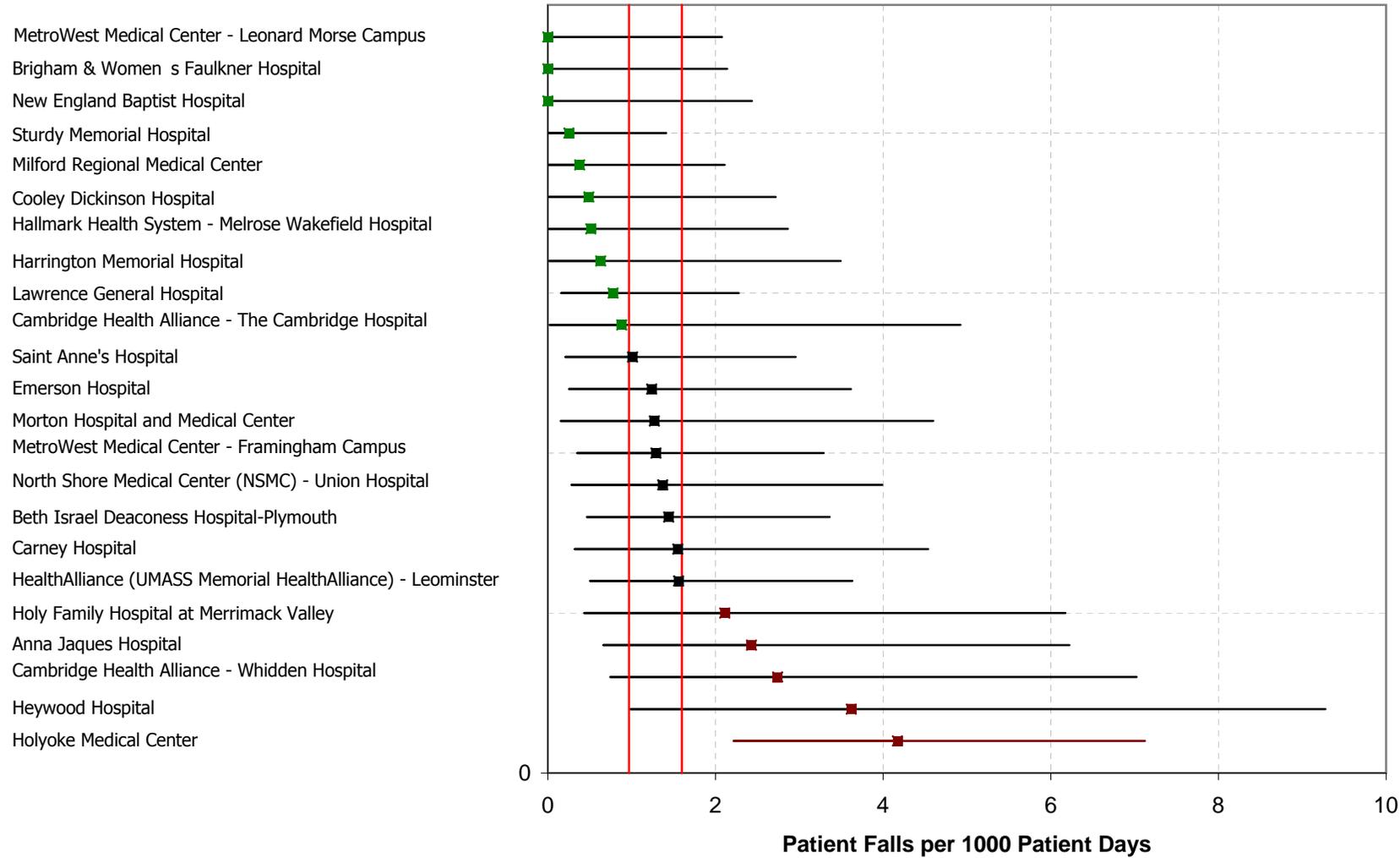


NSC-3 Patient Falls
January – December 2015

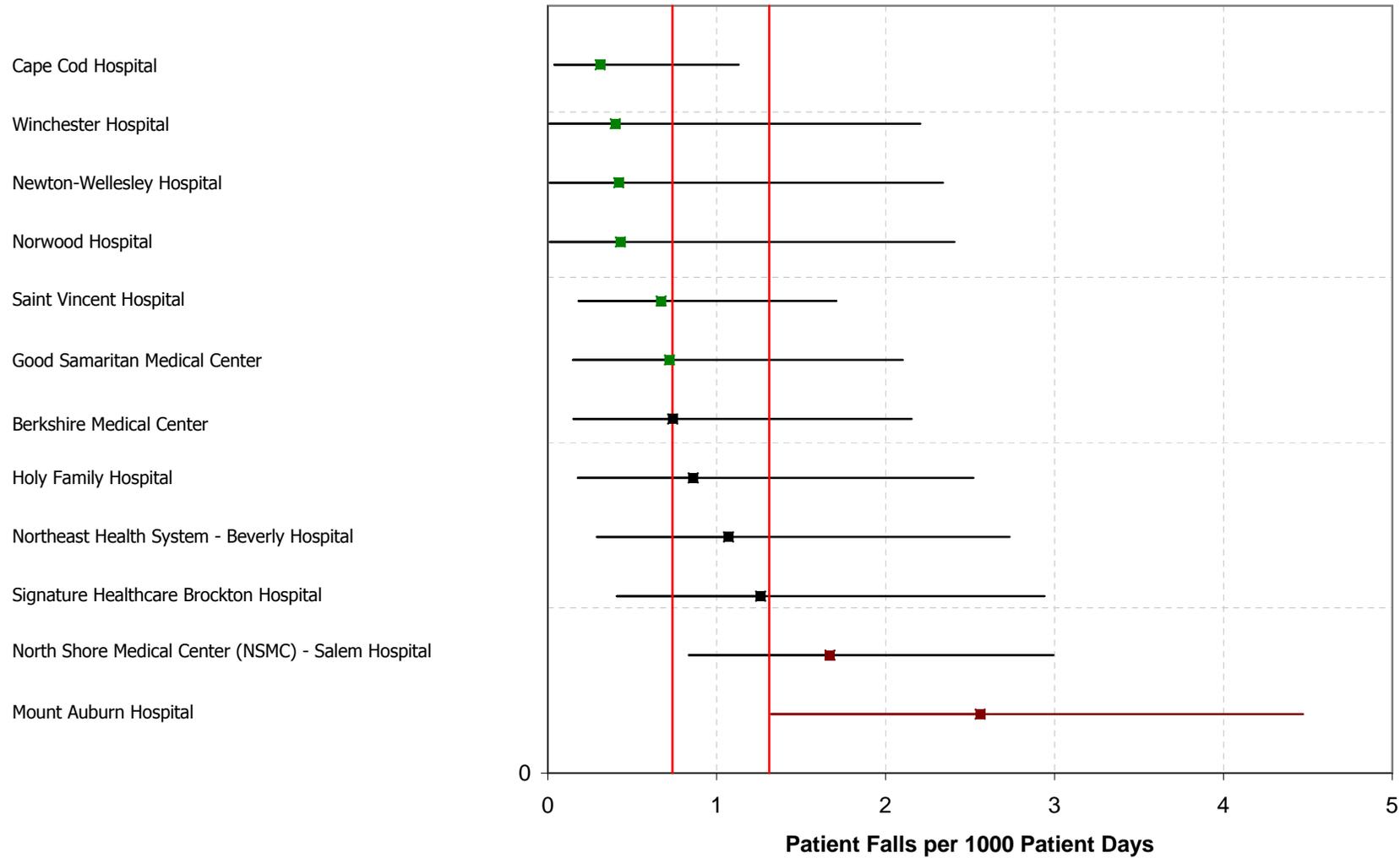
Adult Critical Care Units, Less than 100 beds



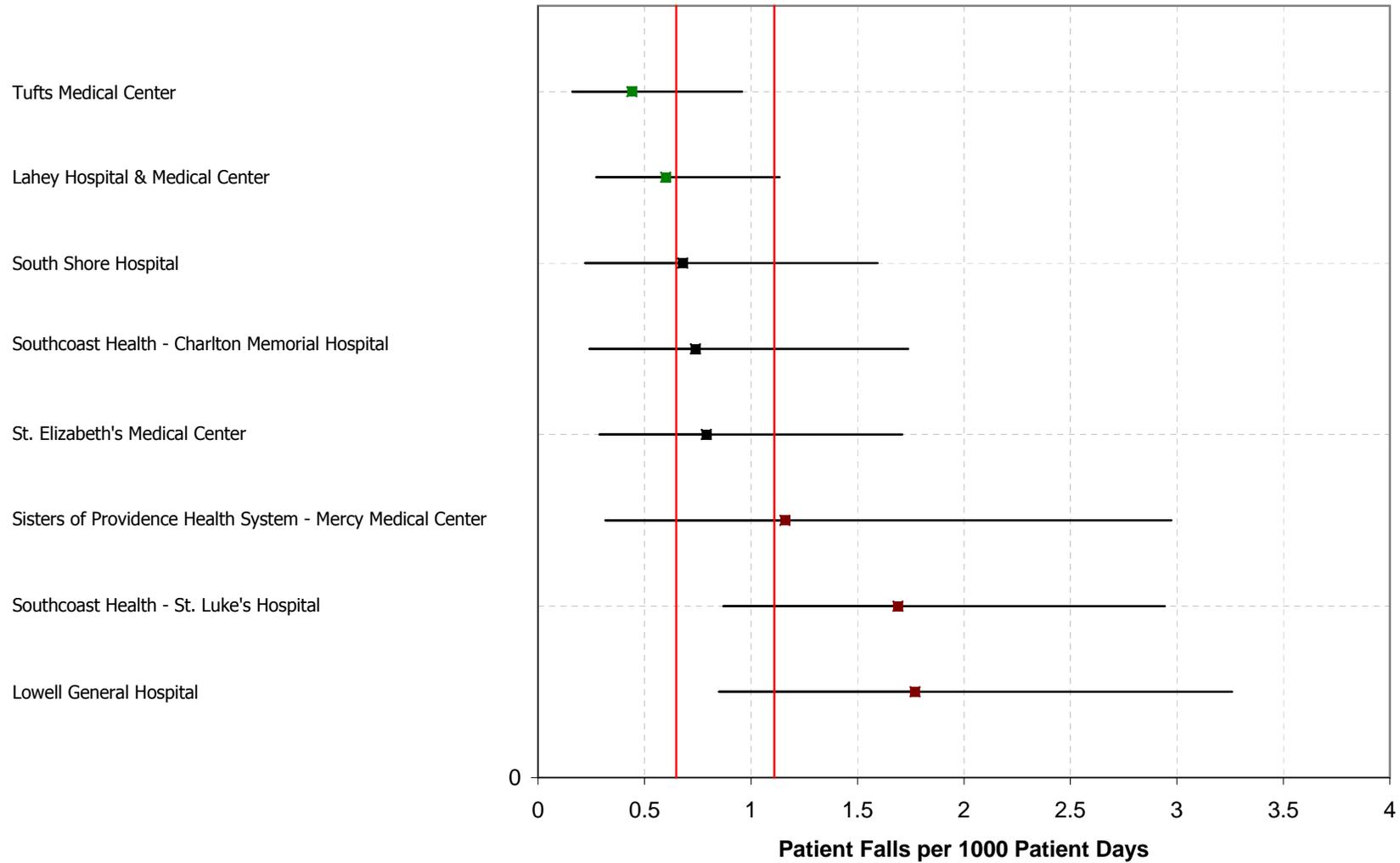
Adult Critical Care Units, 100-199 beds



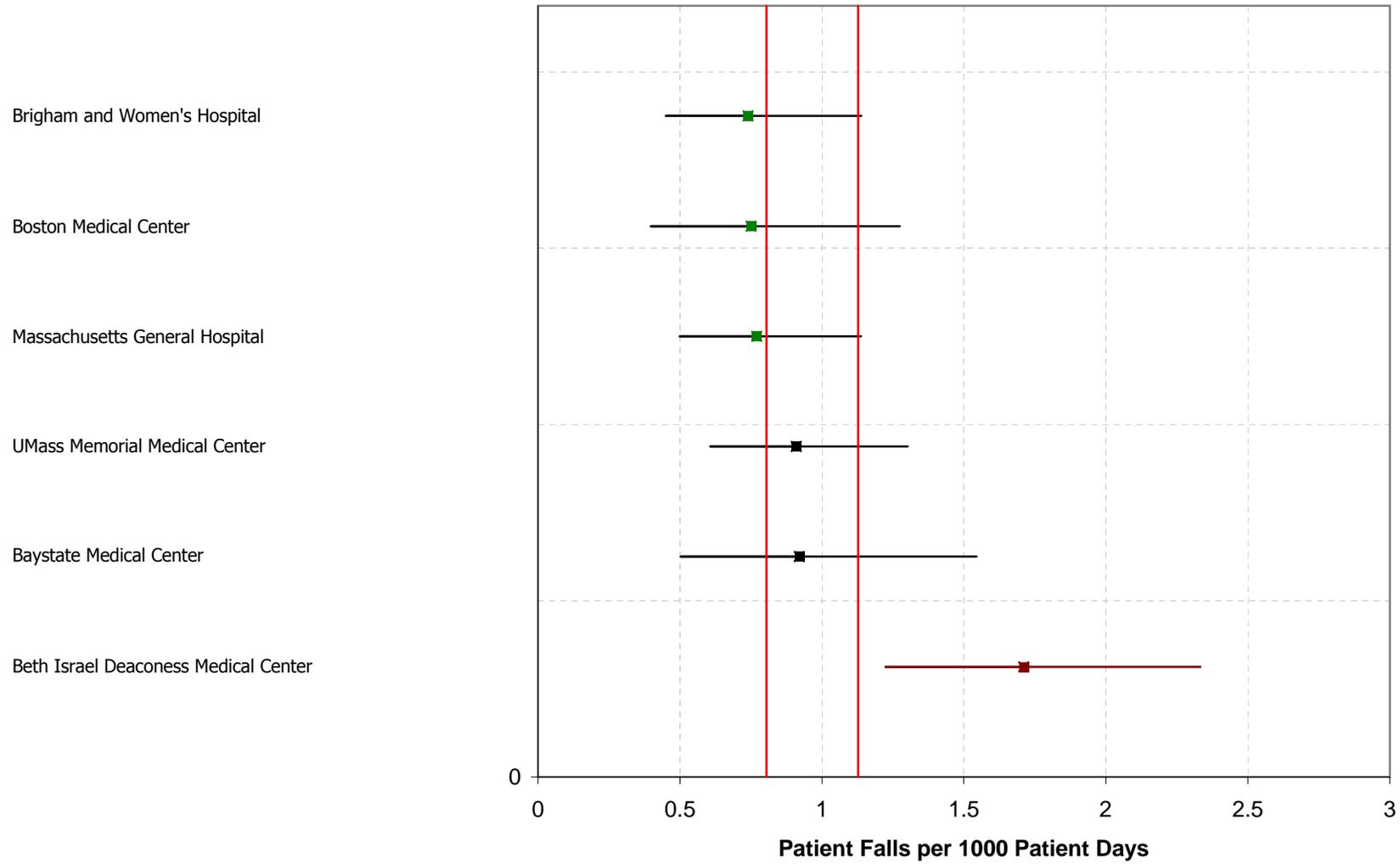
Adult Critical Care Units, 200-299 beds



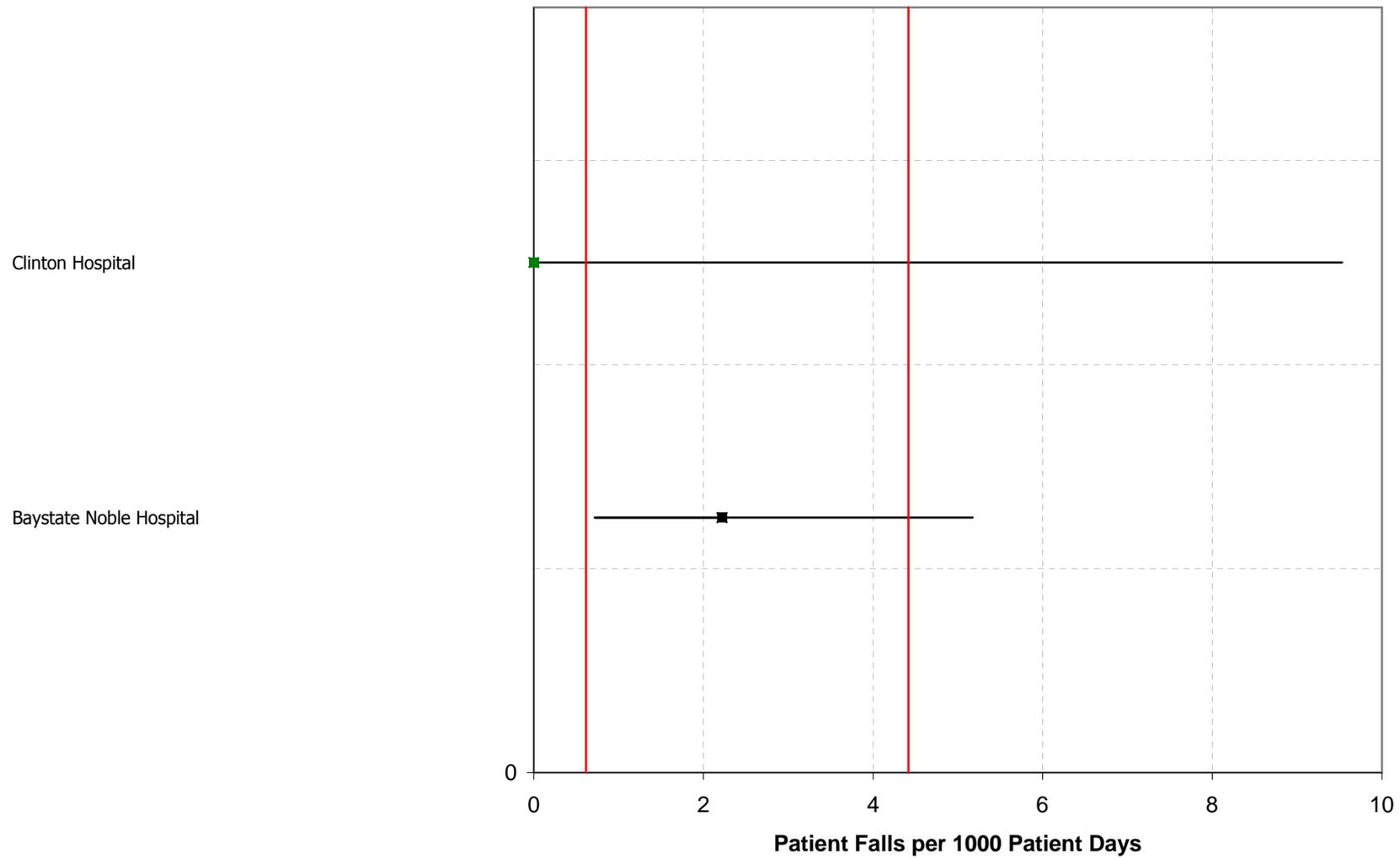
Adult Critical Care Units, 300-399 beds



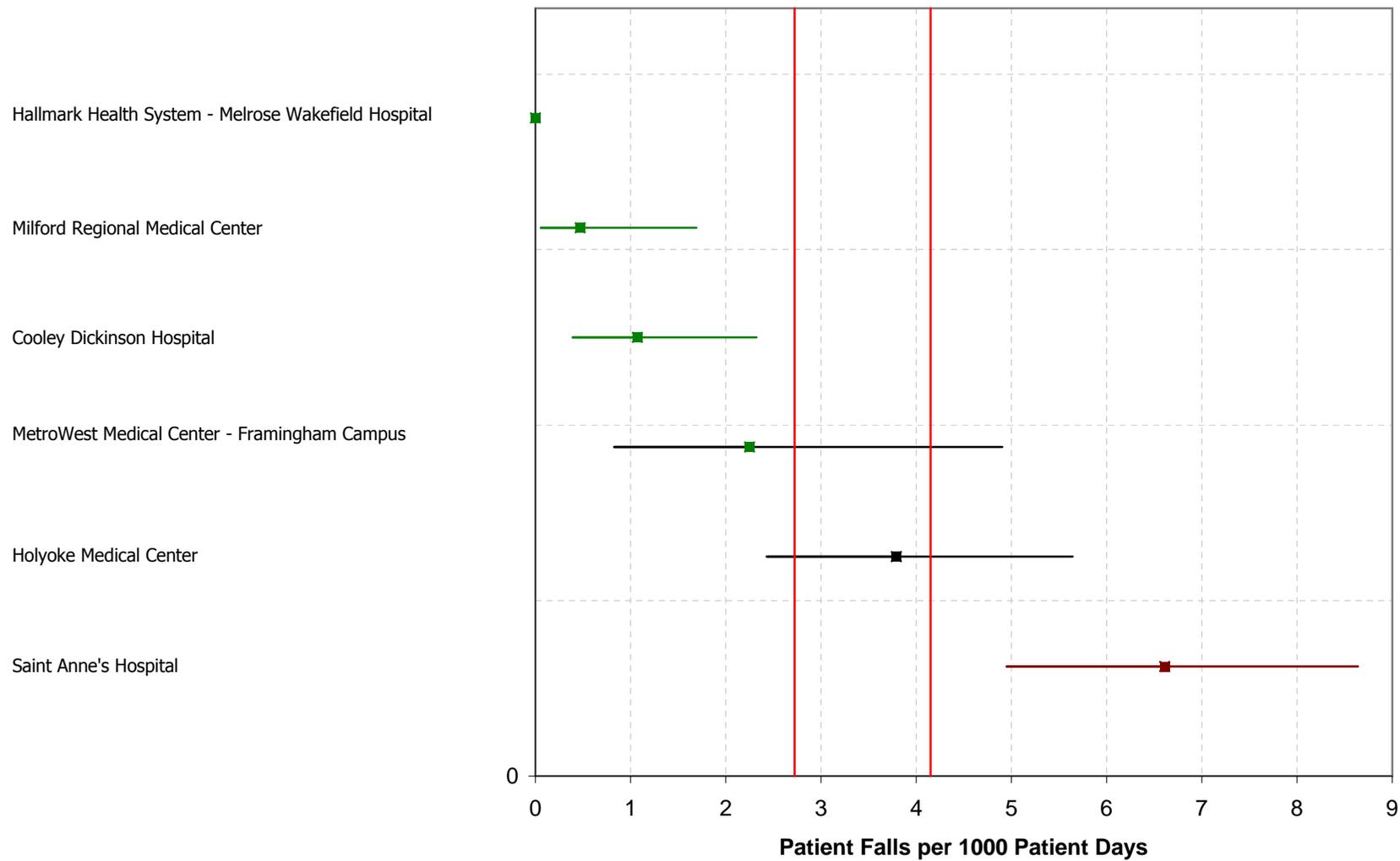
Adult Critical Care Units, More than 500 beds



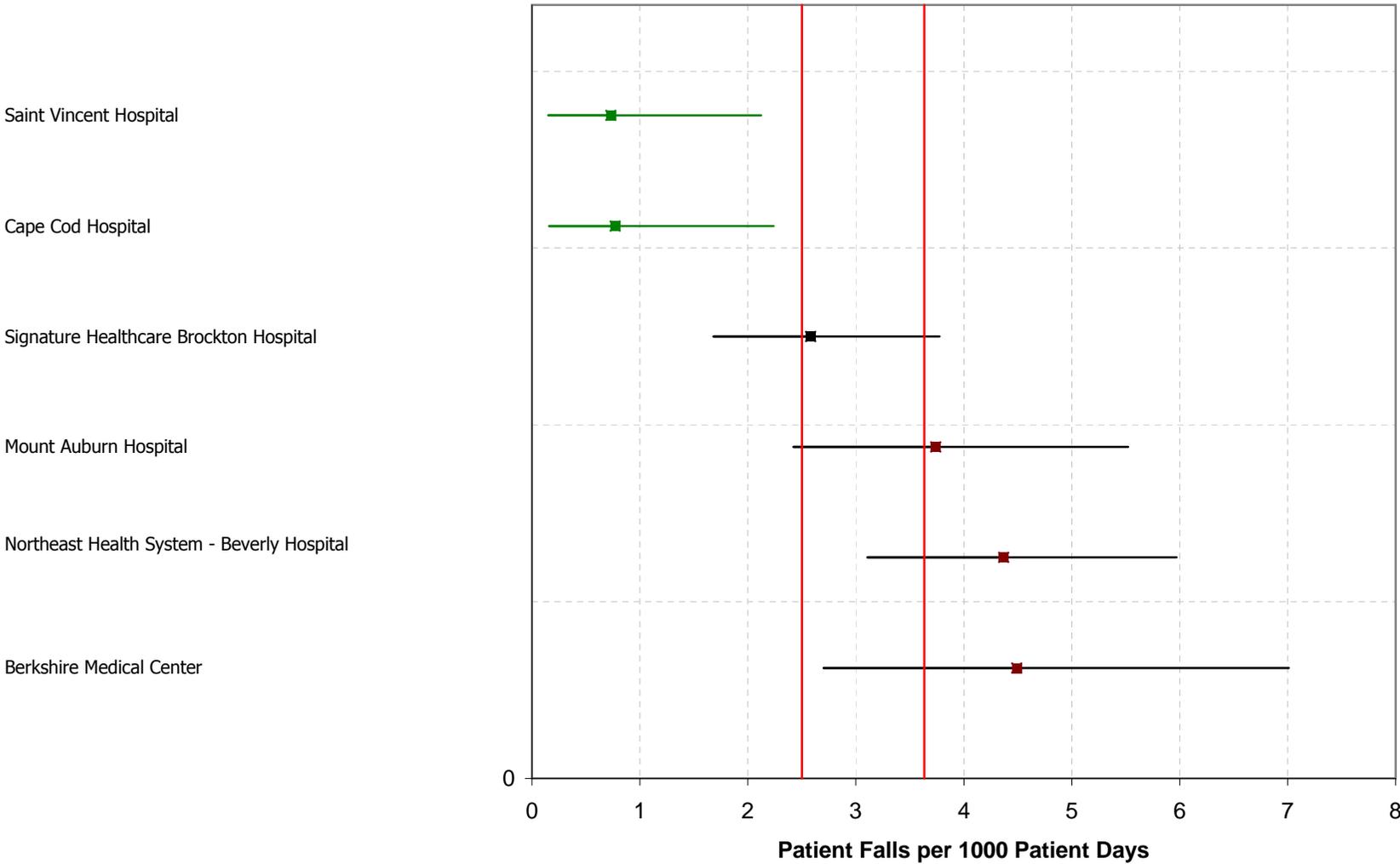
Adult Step-Down Units, Less than 100 beds



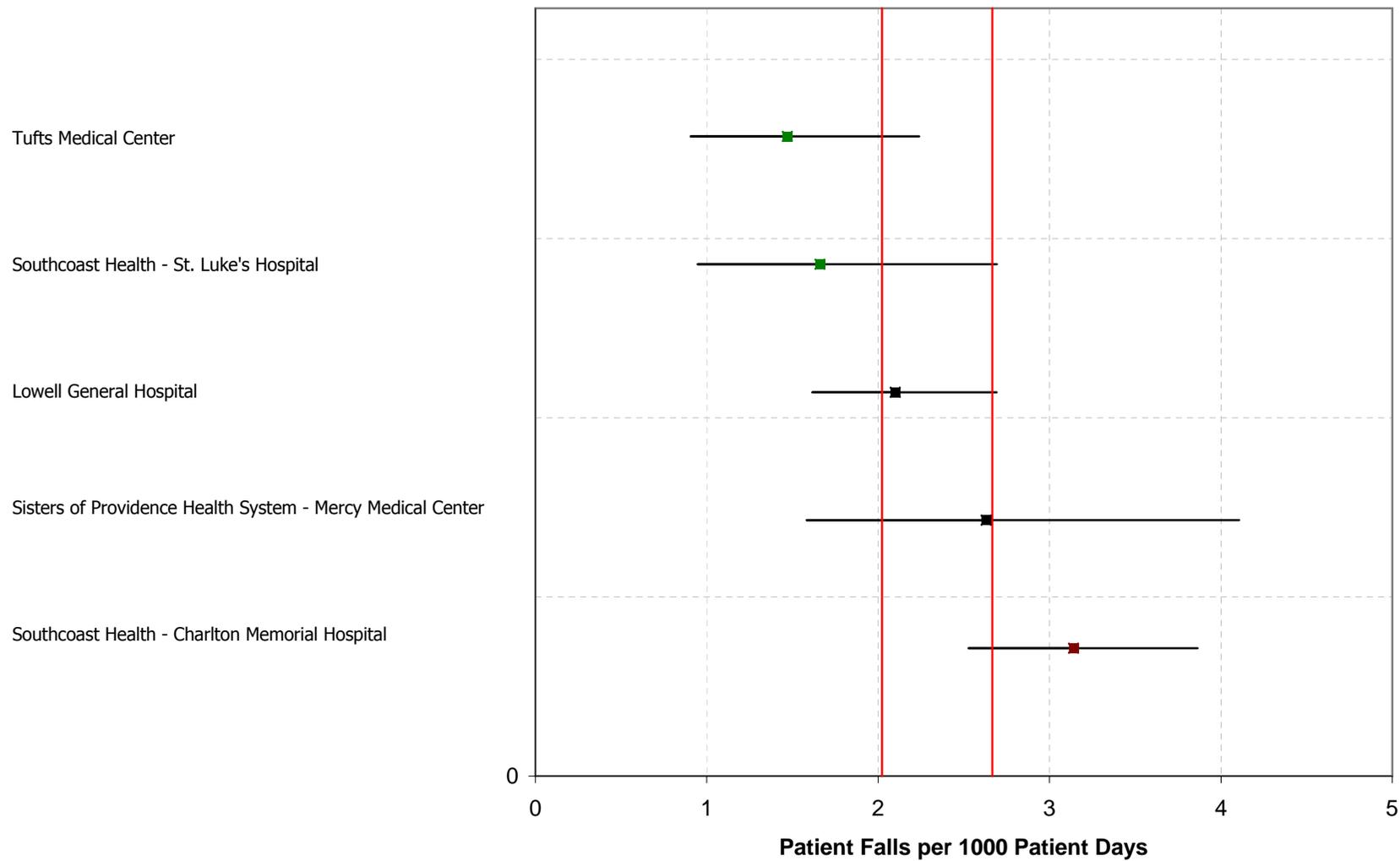
Adult Step-Down Units, 100-199 beds



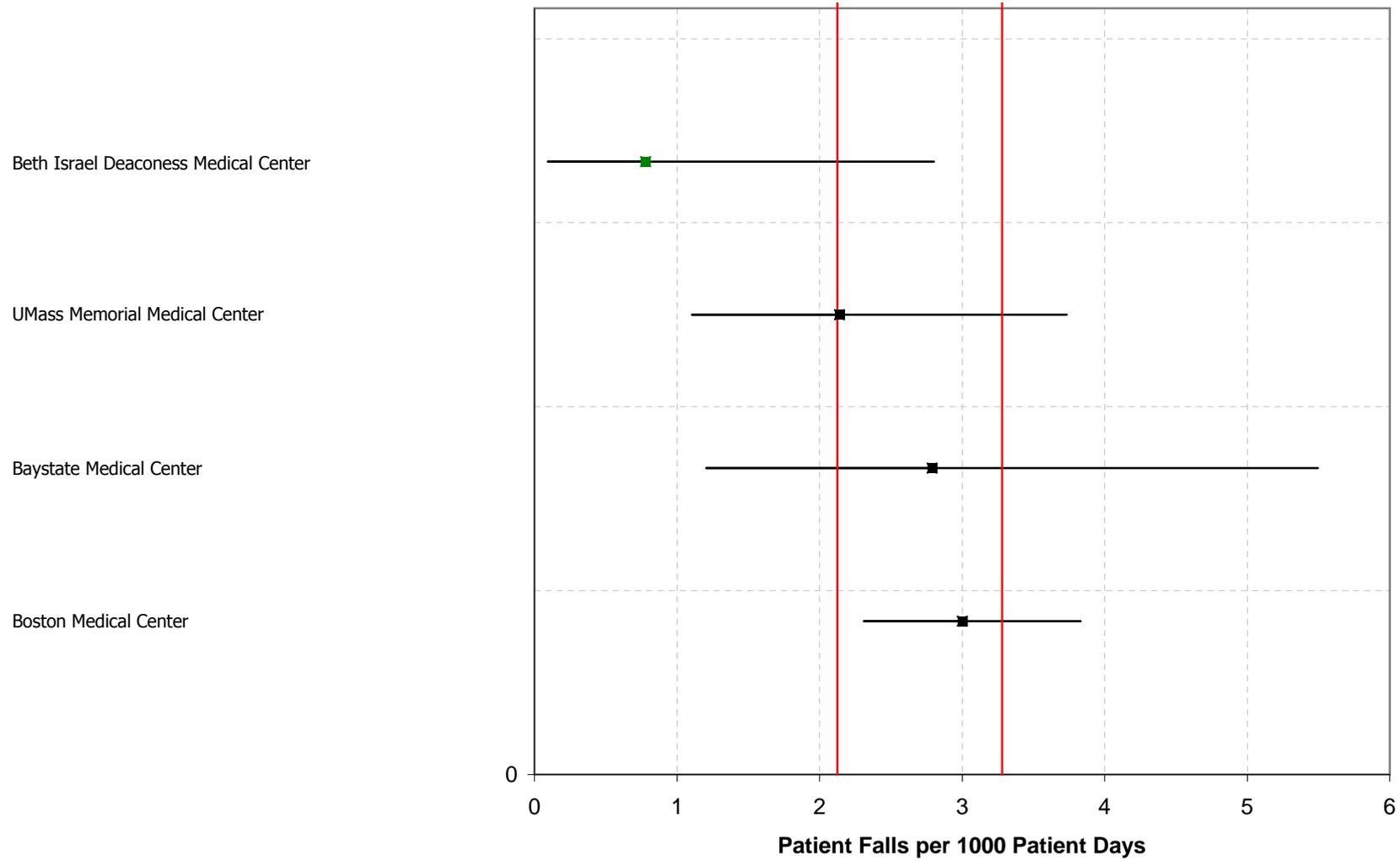
Adult Step-Down Units, 200-299 beds



Adult Step-Down Units, 300-399 beds

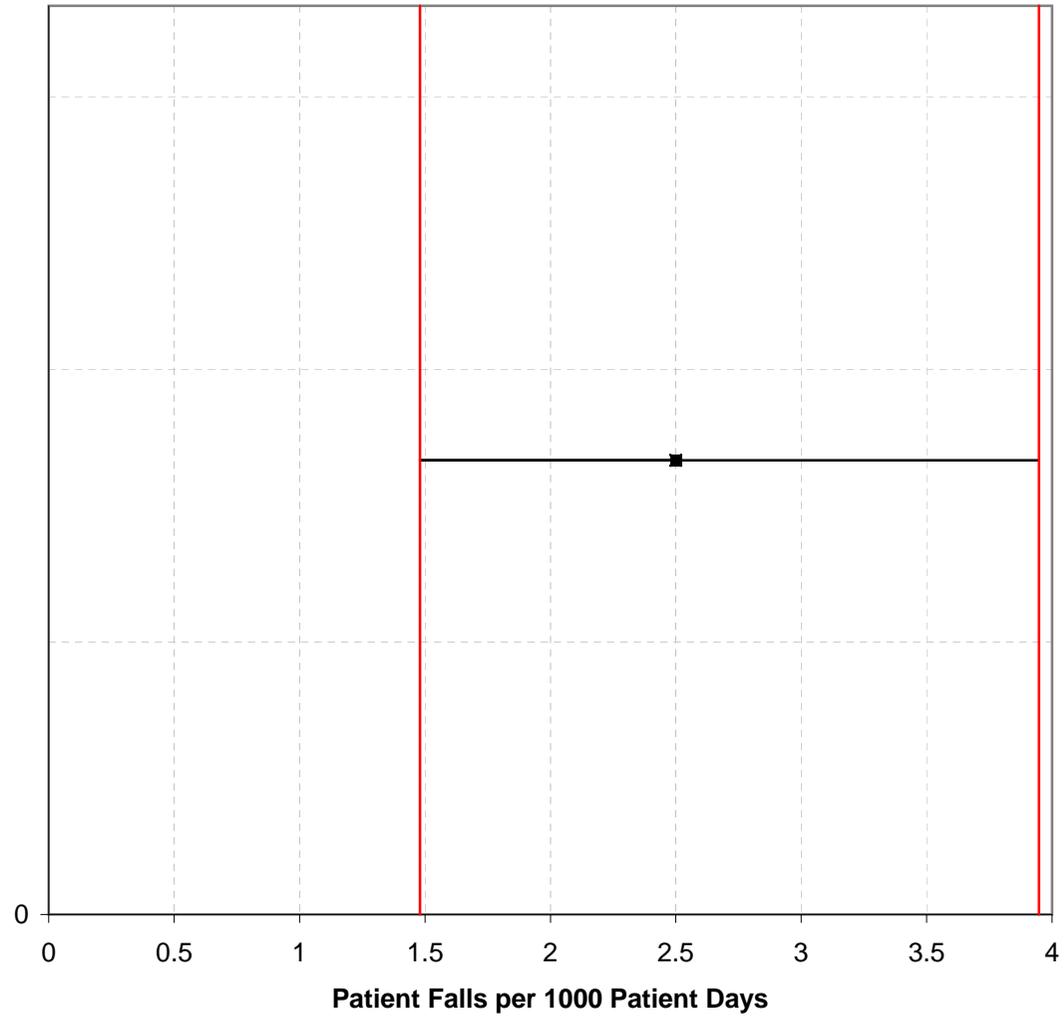


Adult Step-Down Units, More than 500 beds

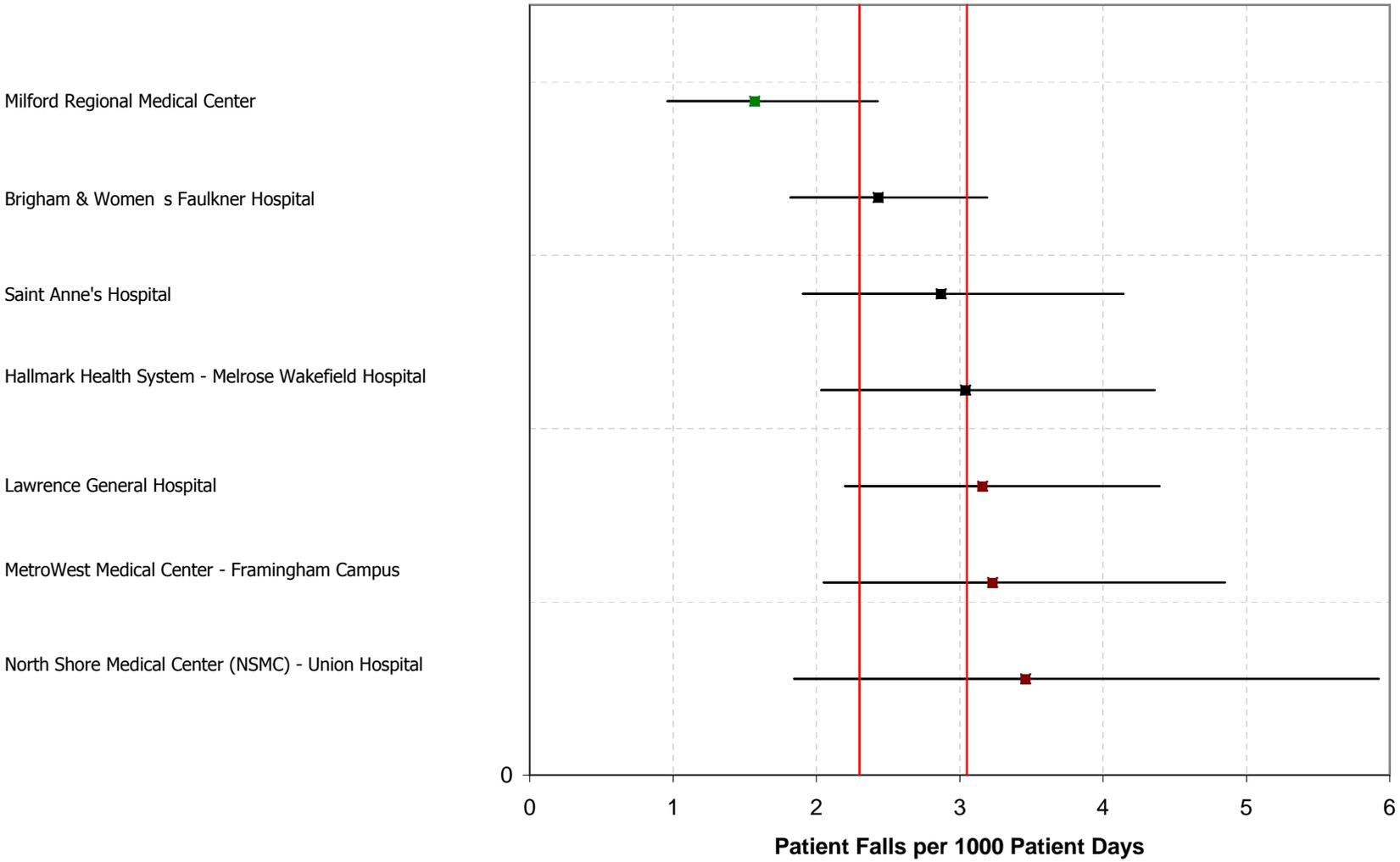


Adult Medical Units, Less than 100 beds

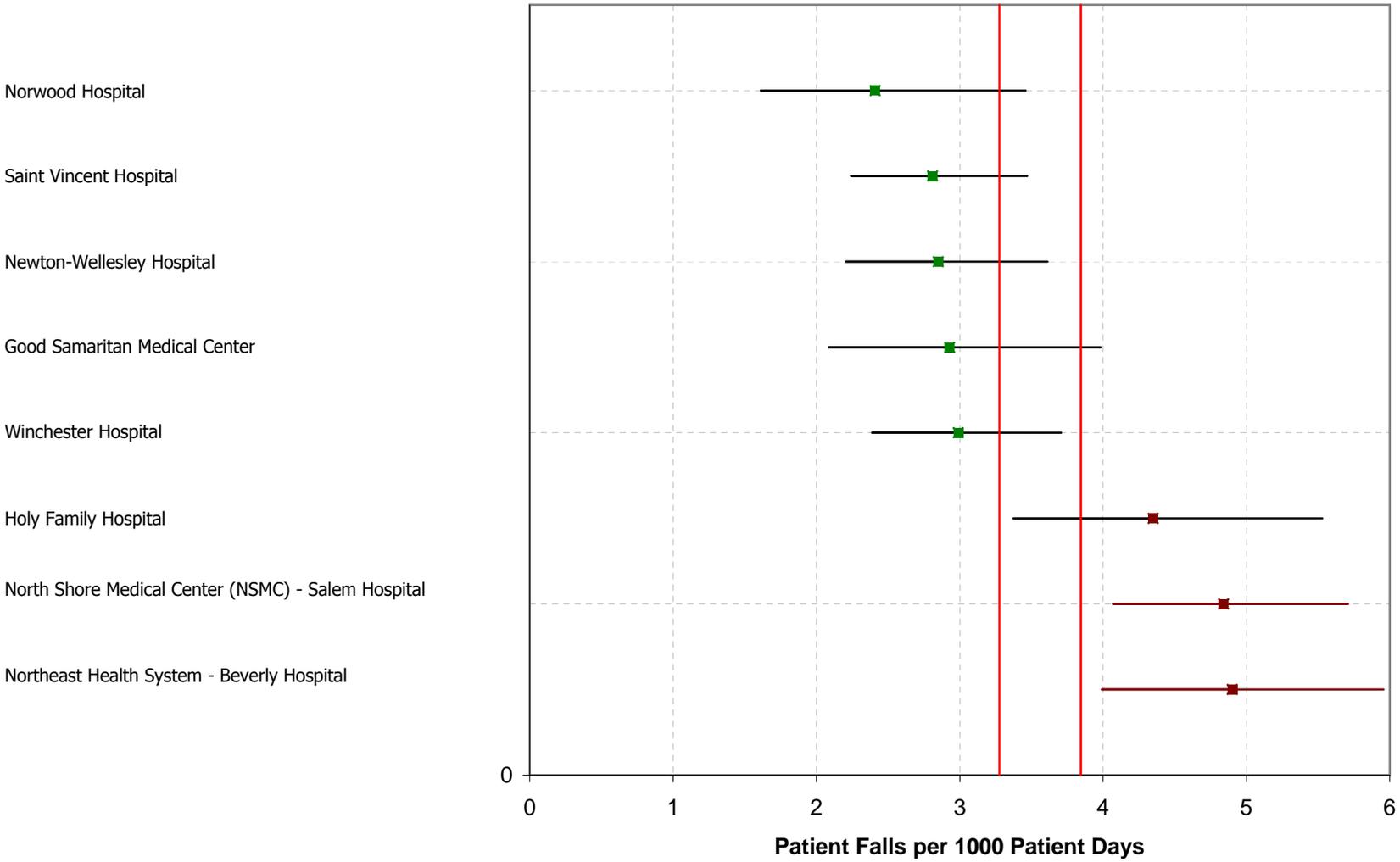
Northeast Health System - Addison Gilbert Hospital



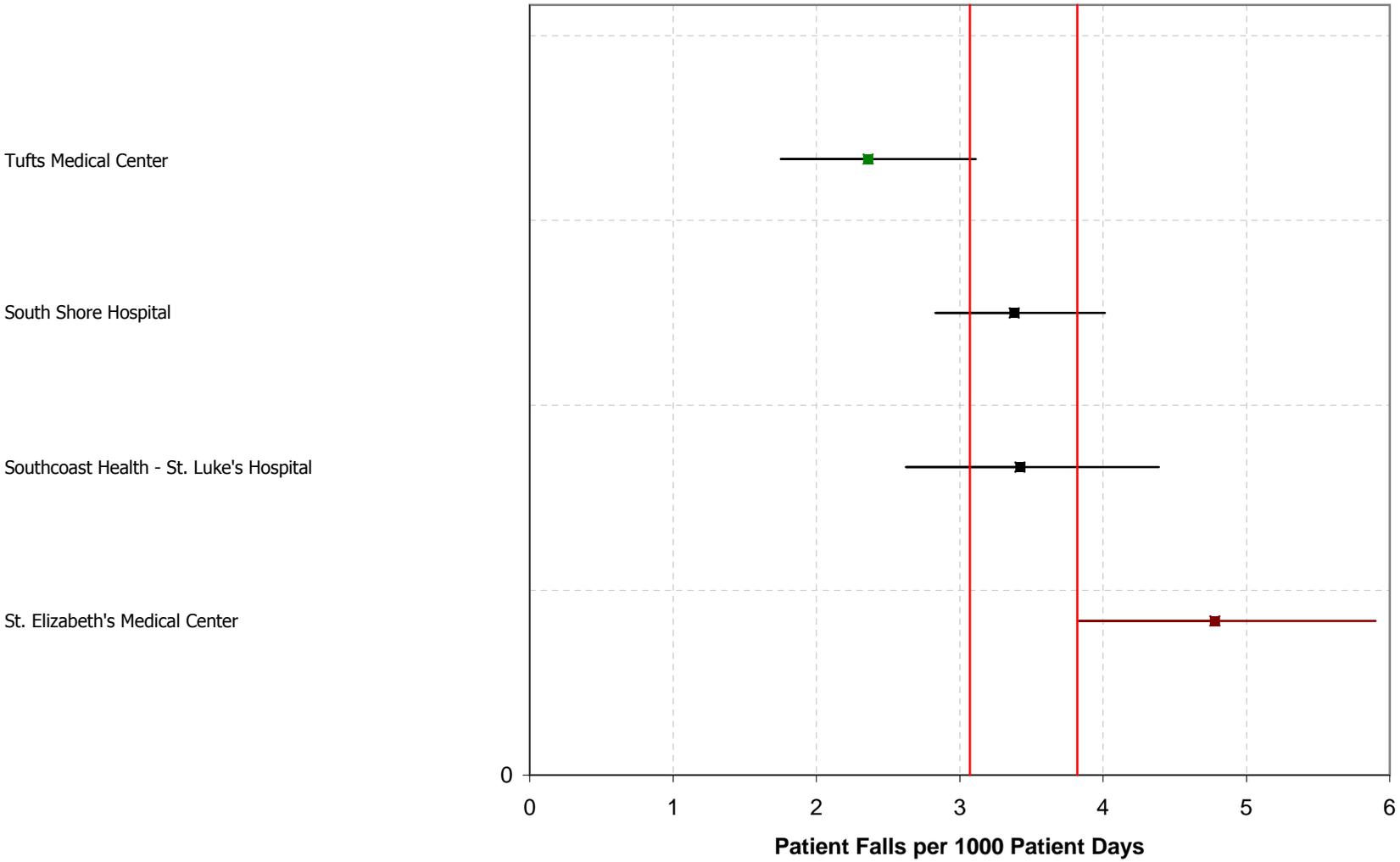
Adult Medical Units, 100-199 beds



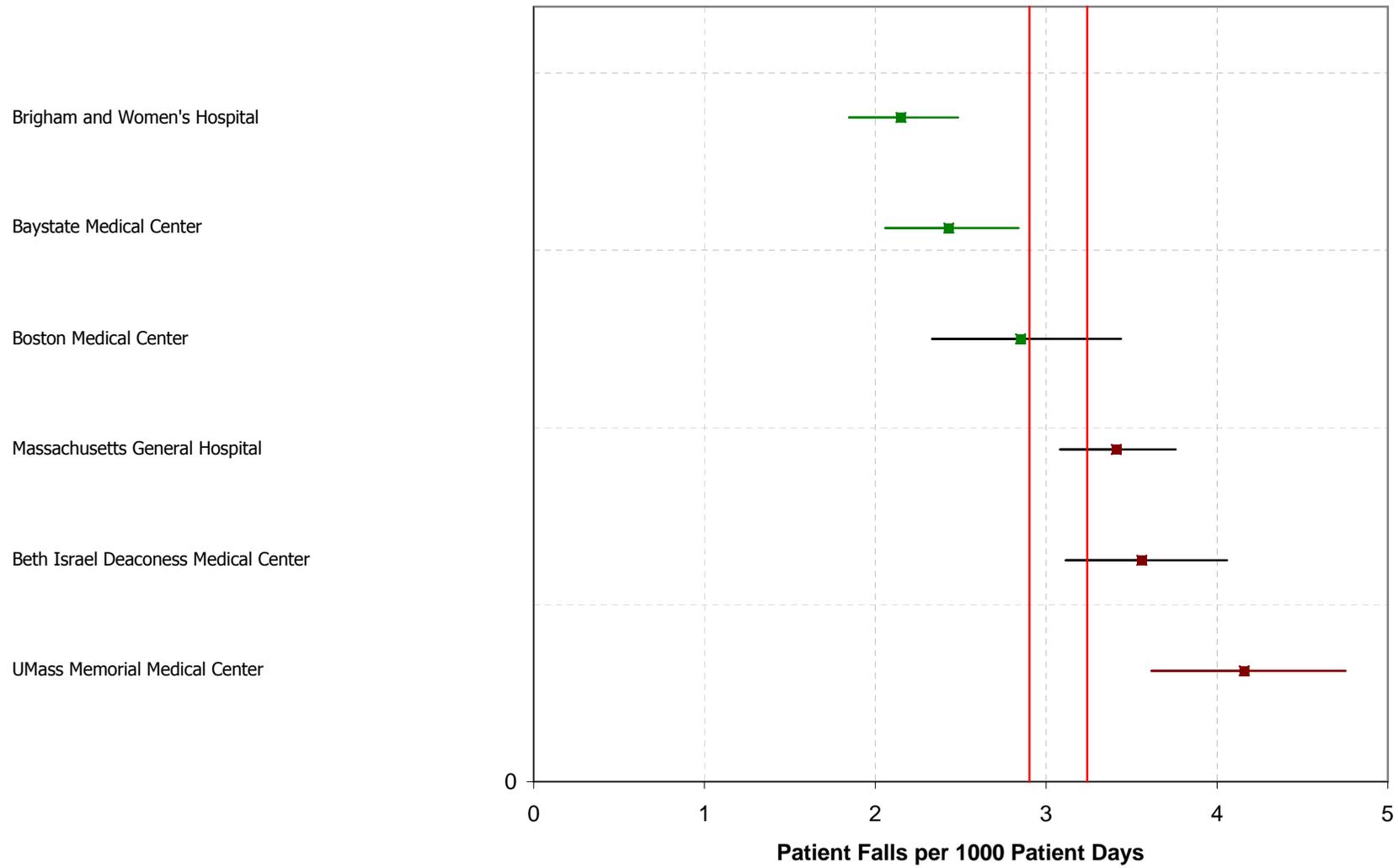
Adult Medical Units, 200-299 beds



Adult Medical Units, 300-399 beds

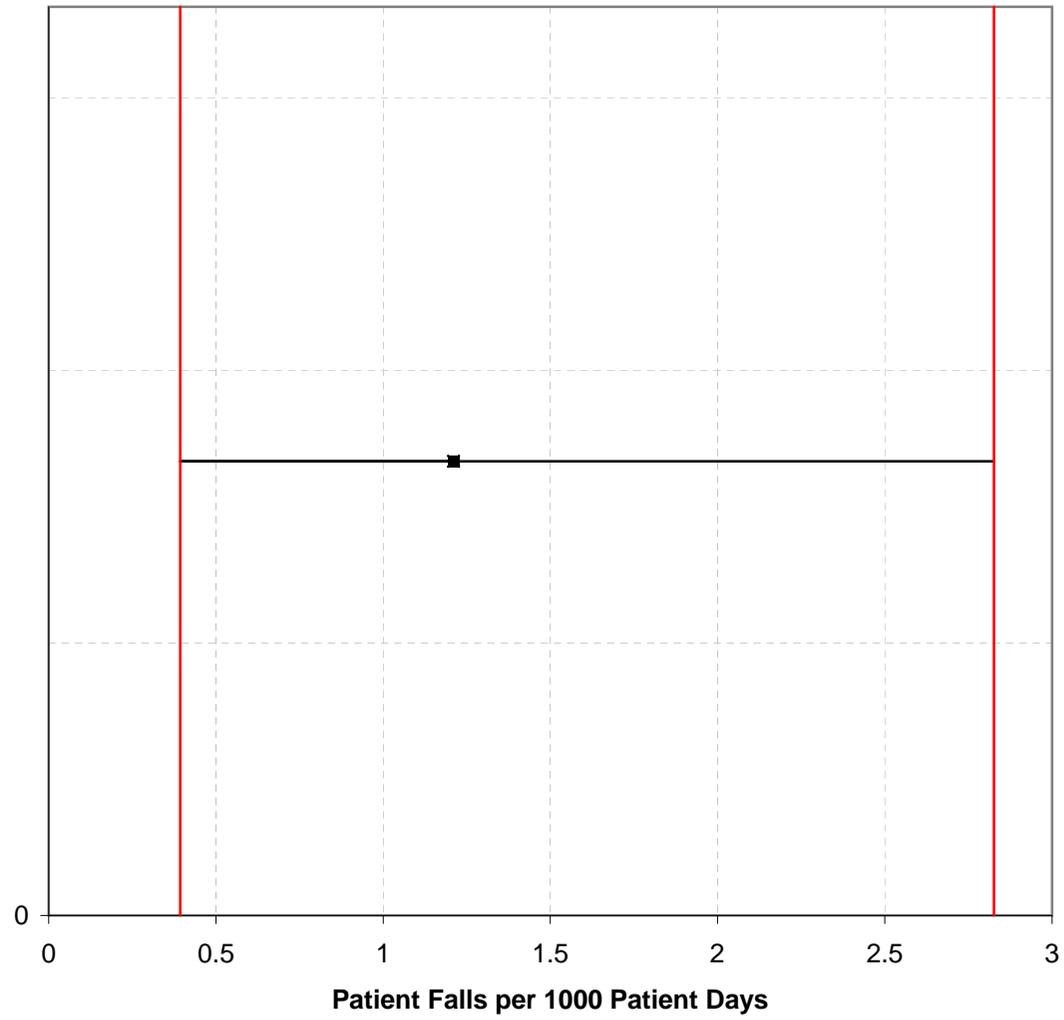


Adult Medical Units, More than 500 beds

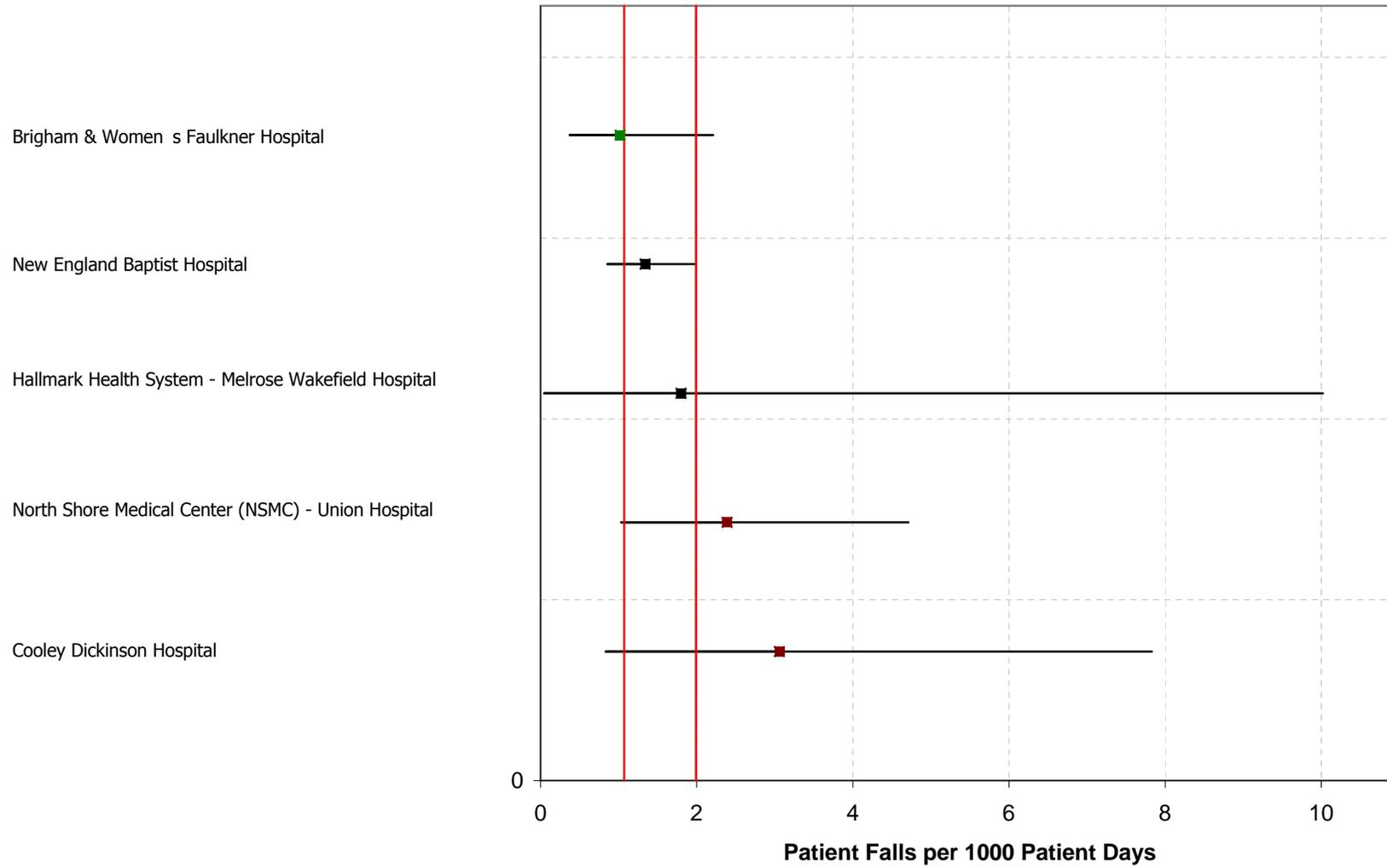


Adult Surgical Units, Less than 100 beds

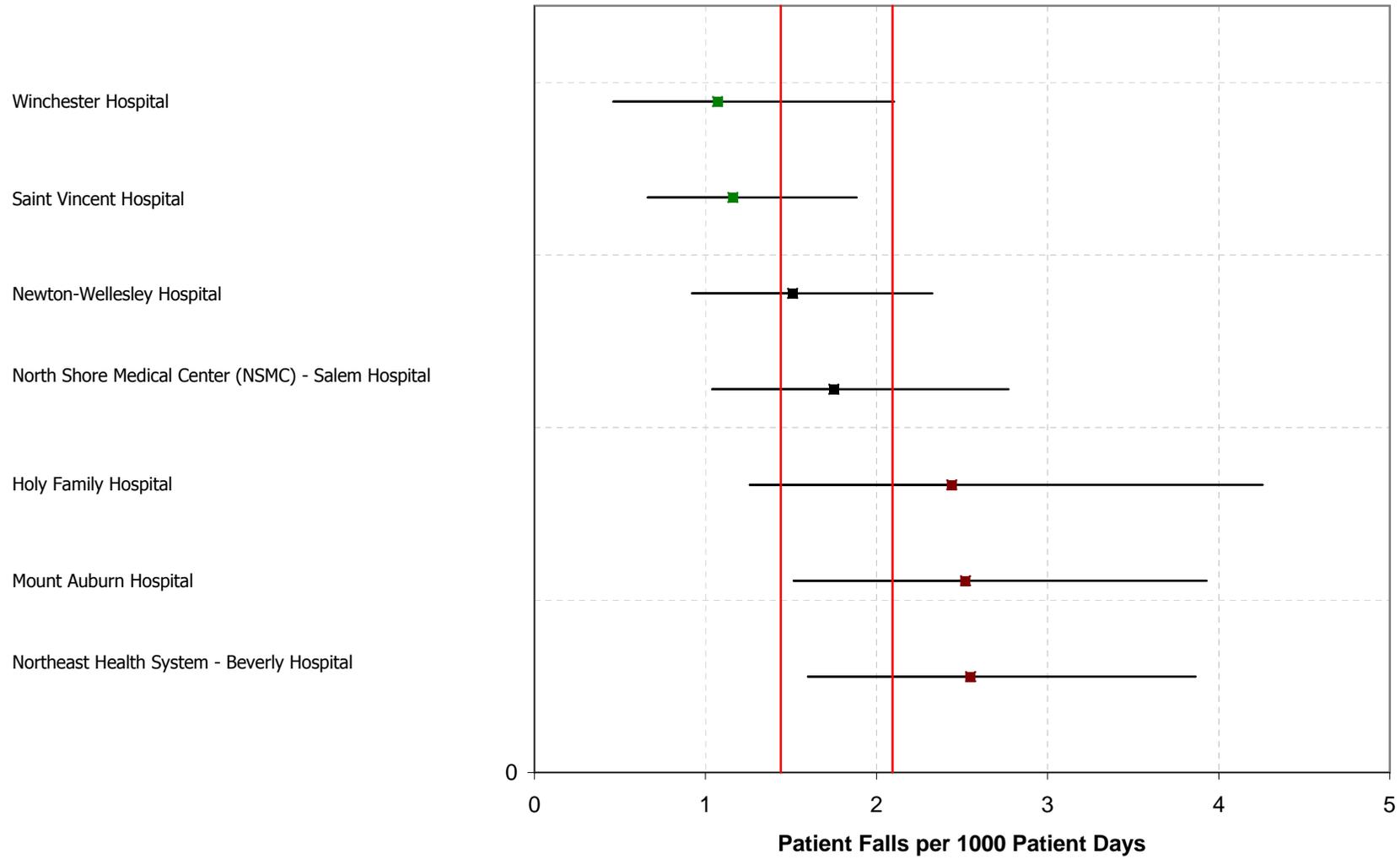
Falmouth Hospital



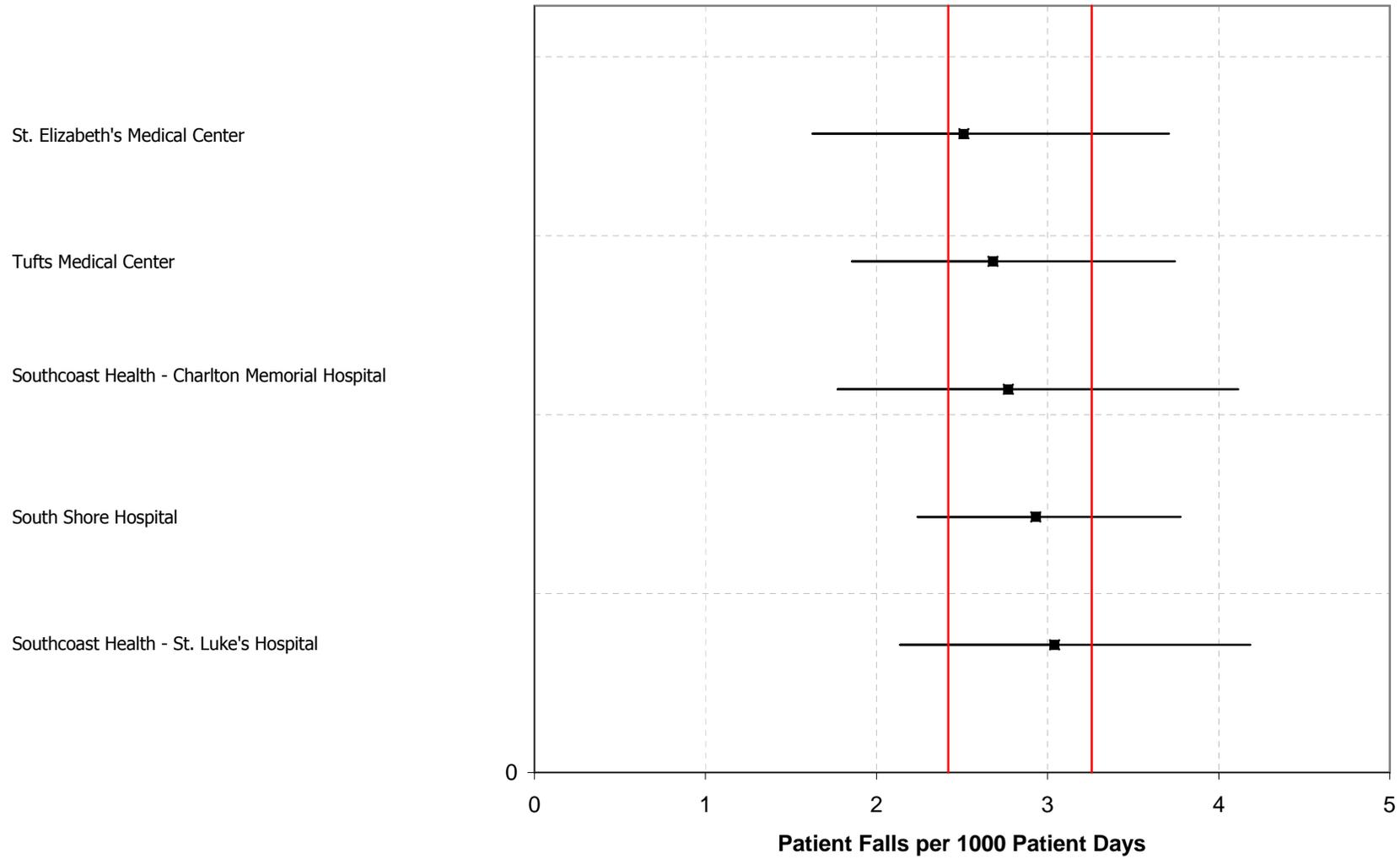
Adult Surgical Units, 100-199 beds



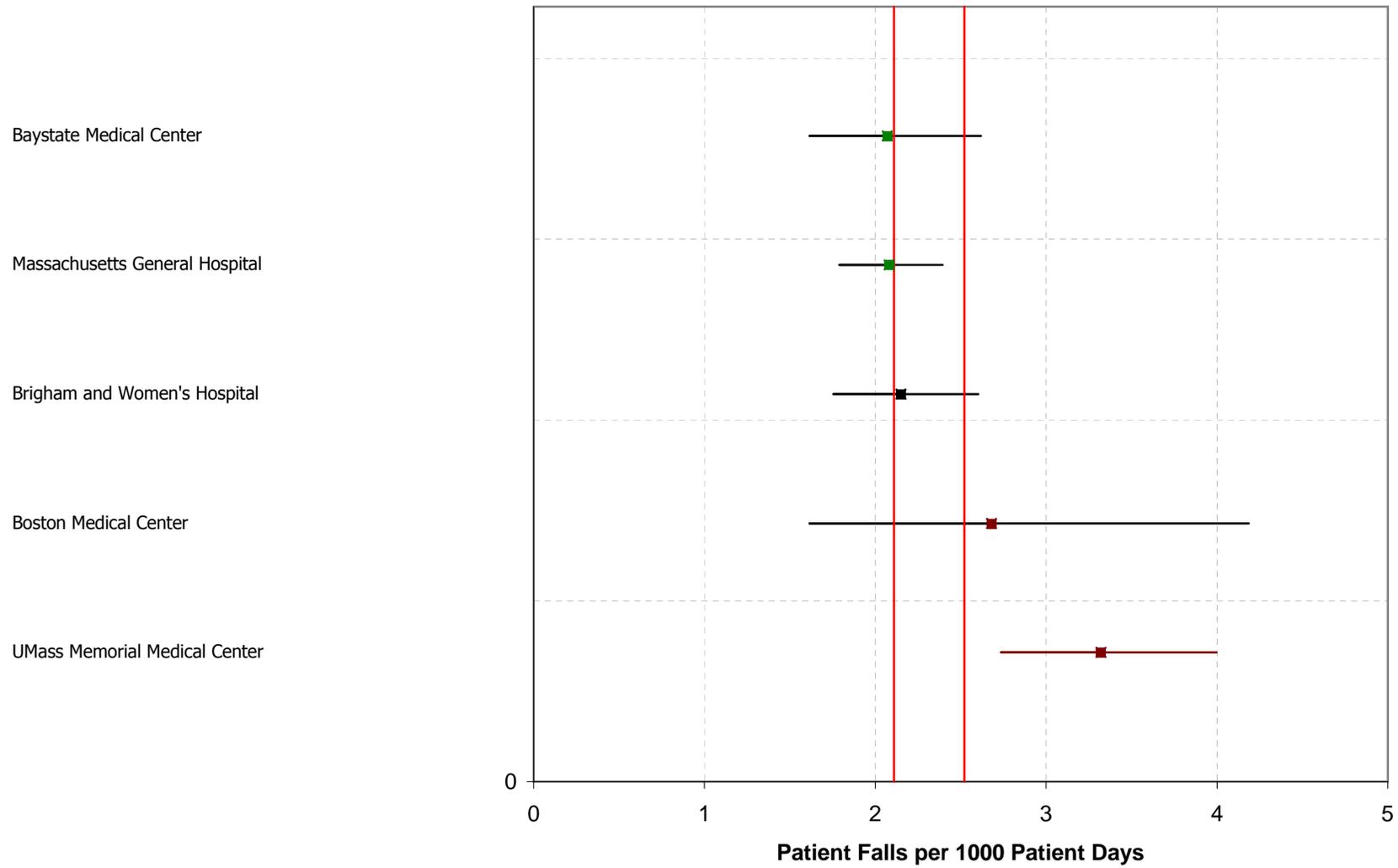
Adult Surgical Units, 200-299 beds



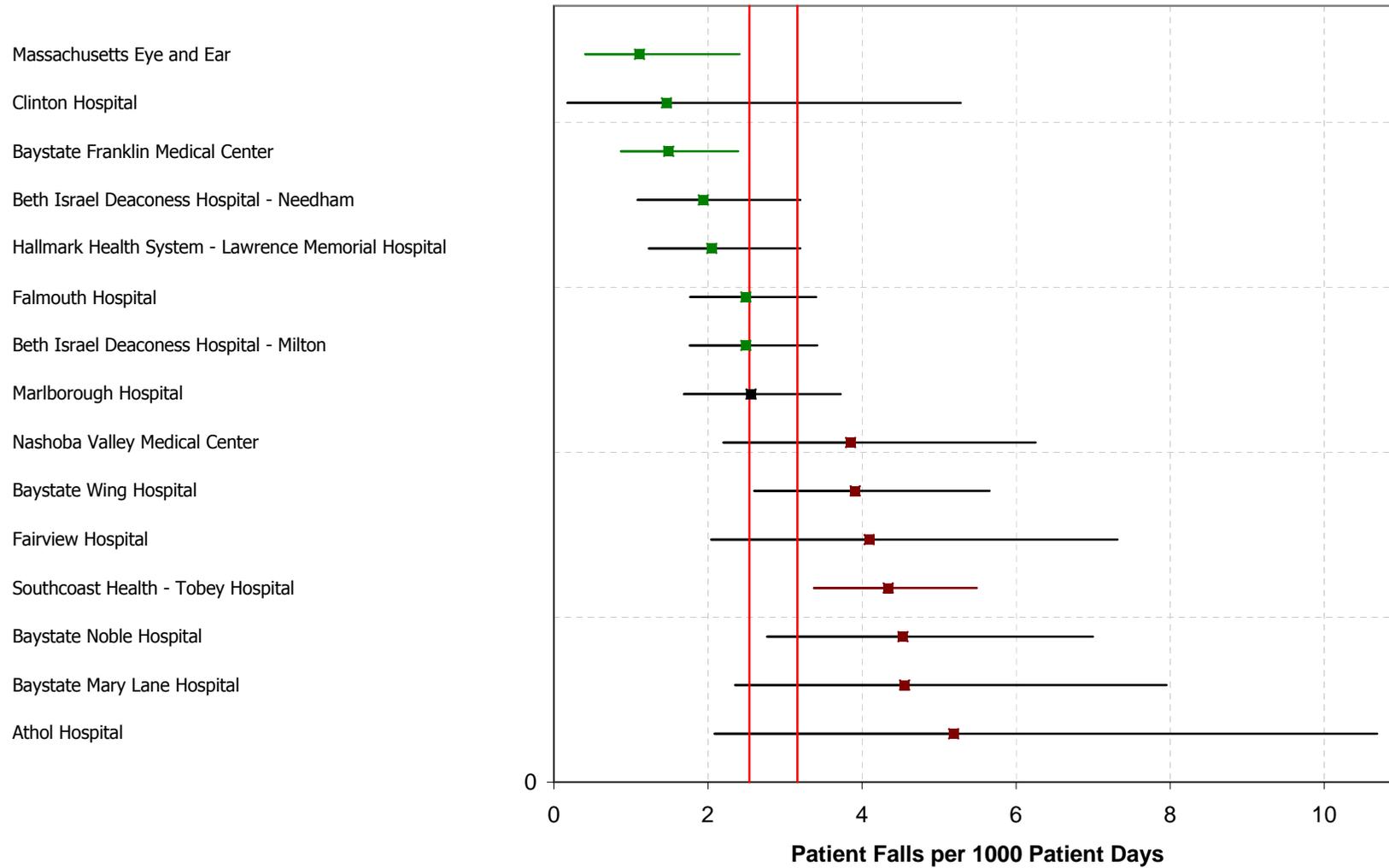
Adult Surgical Units, 300-399 beds



Adult Surgical Units, More than 500 beds

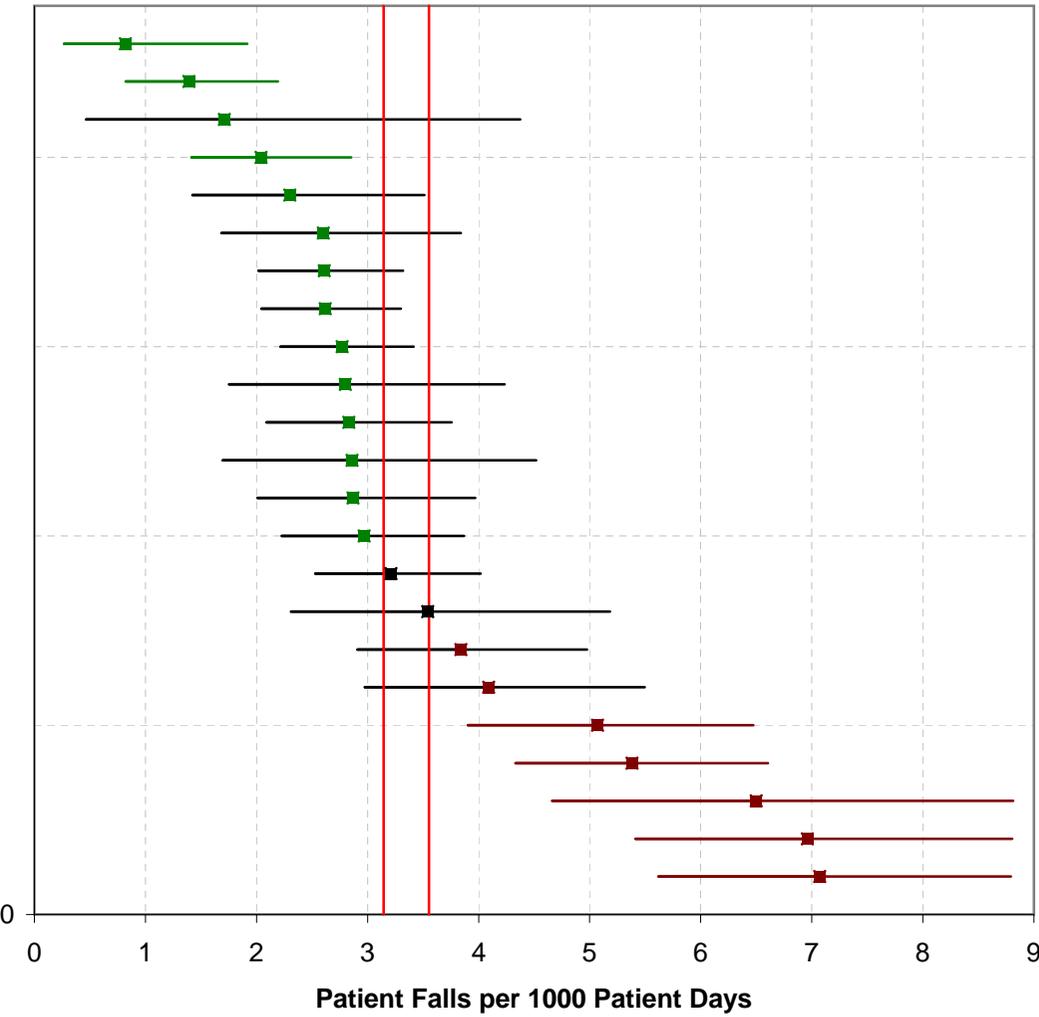


Adult Medical-Surgical Units, Less than 100 beds

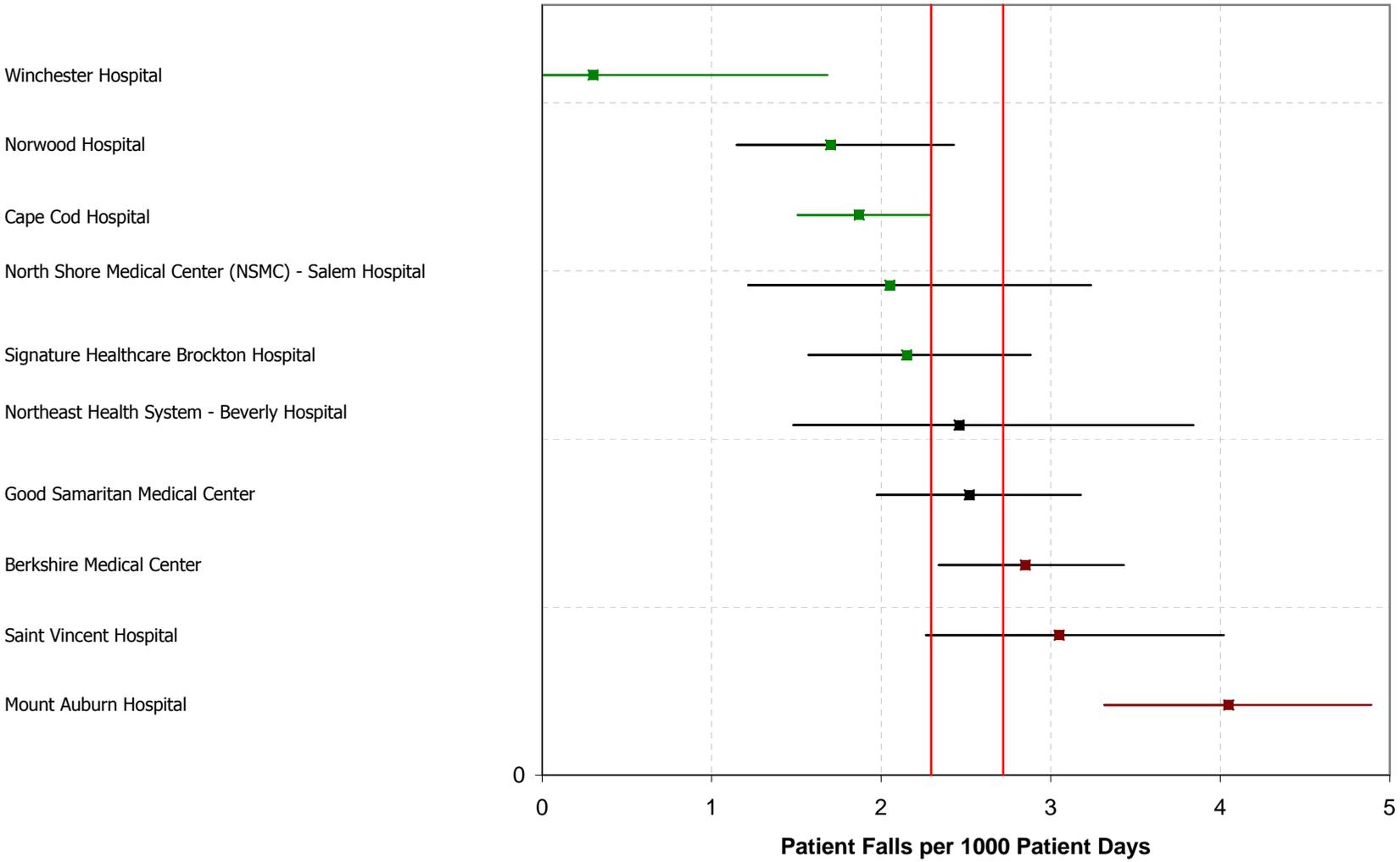


Adult Medical-Surgical Units, 100-199 beds

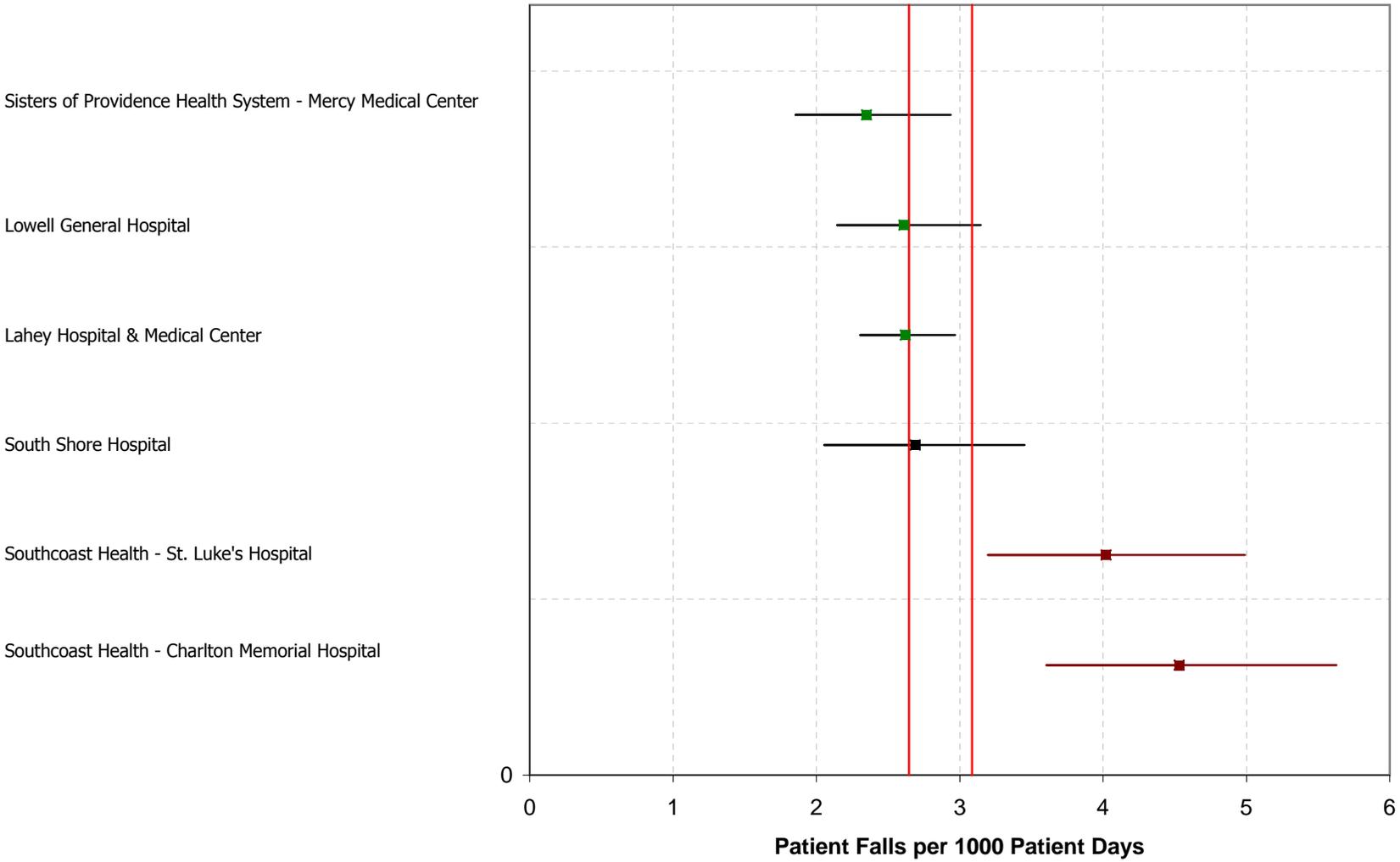
- New England Baptist Hospital
- Cooley Dickinson Hospital
- Brigham & Women's Faulkner Hospital
- Emerson Hospital
- Milford Regional Medical Center
- MetroWest Medical Center - Framingham Campus
- HealthAlliance (UMASS Memorial HealthAlliance) - Leominster
- Sturdy Memorial Hospital
- Beth Israel Deaconess Hospital-Plymouth
- North Shore Medical Center (NSMC) - Union Hospital
- Anna Jaques Hospital
- Holyoke Medical Center
- Harrington Memorial Hospital
- Hallmark Health System - Melrose Wakefield Hospital
- Lawrence General Hospital
- MetroWest Medical Center - Leonard Morse Campus
- Heywood Hospital
- Cambridge Health Alliance - Whidden Hospital
- Saint Anne's Hospital
- Morton Hospital and Medical Center
- Holy Family Hospital at Merrimack Valley
- Carney Hospital
- Cambridge Health Alliance - The Cambridge Hospital



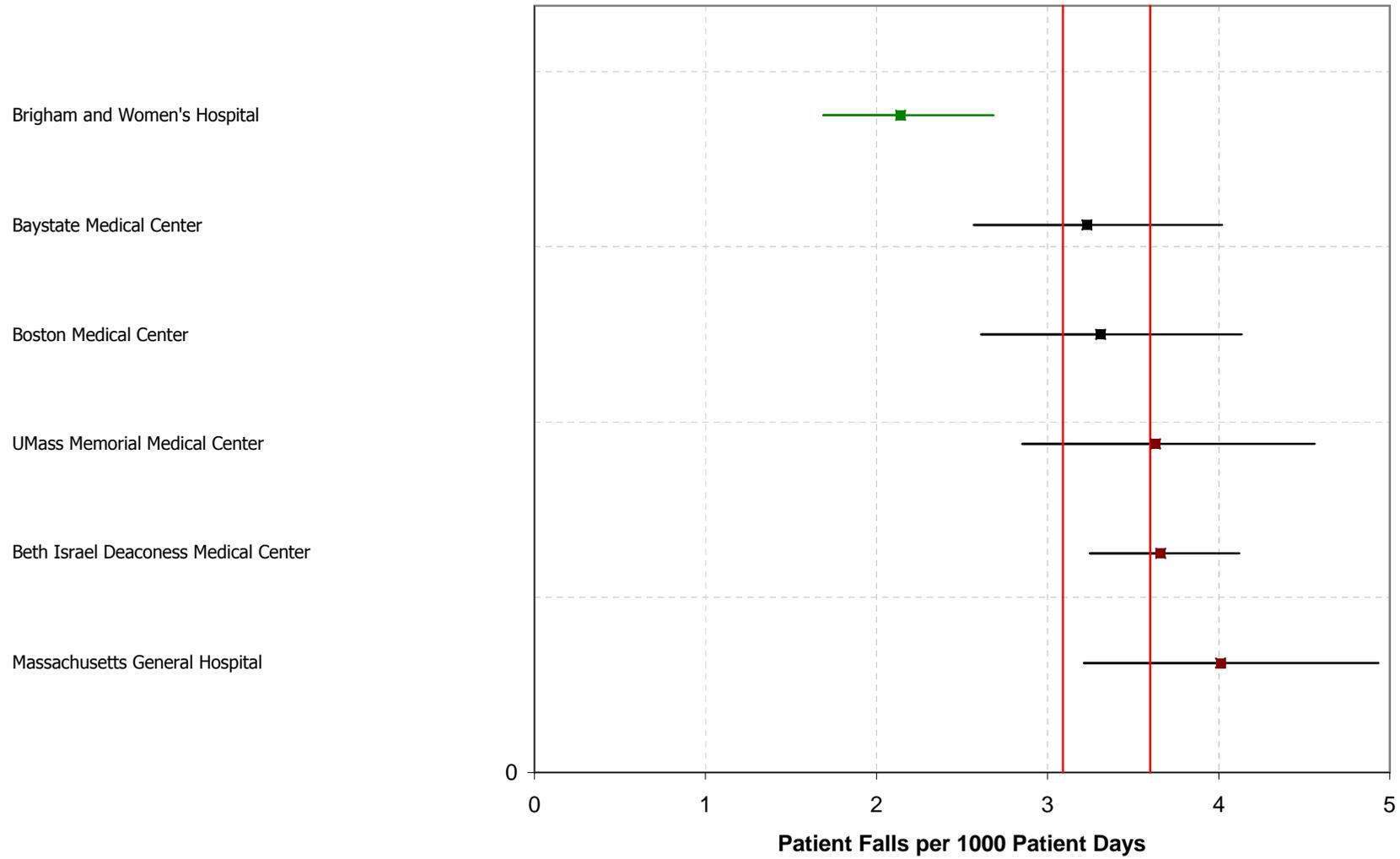
Adult Medical-Surgical Units, 200-299 beds



Adult Medical-Surgical Units, 300-399 beds



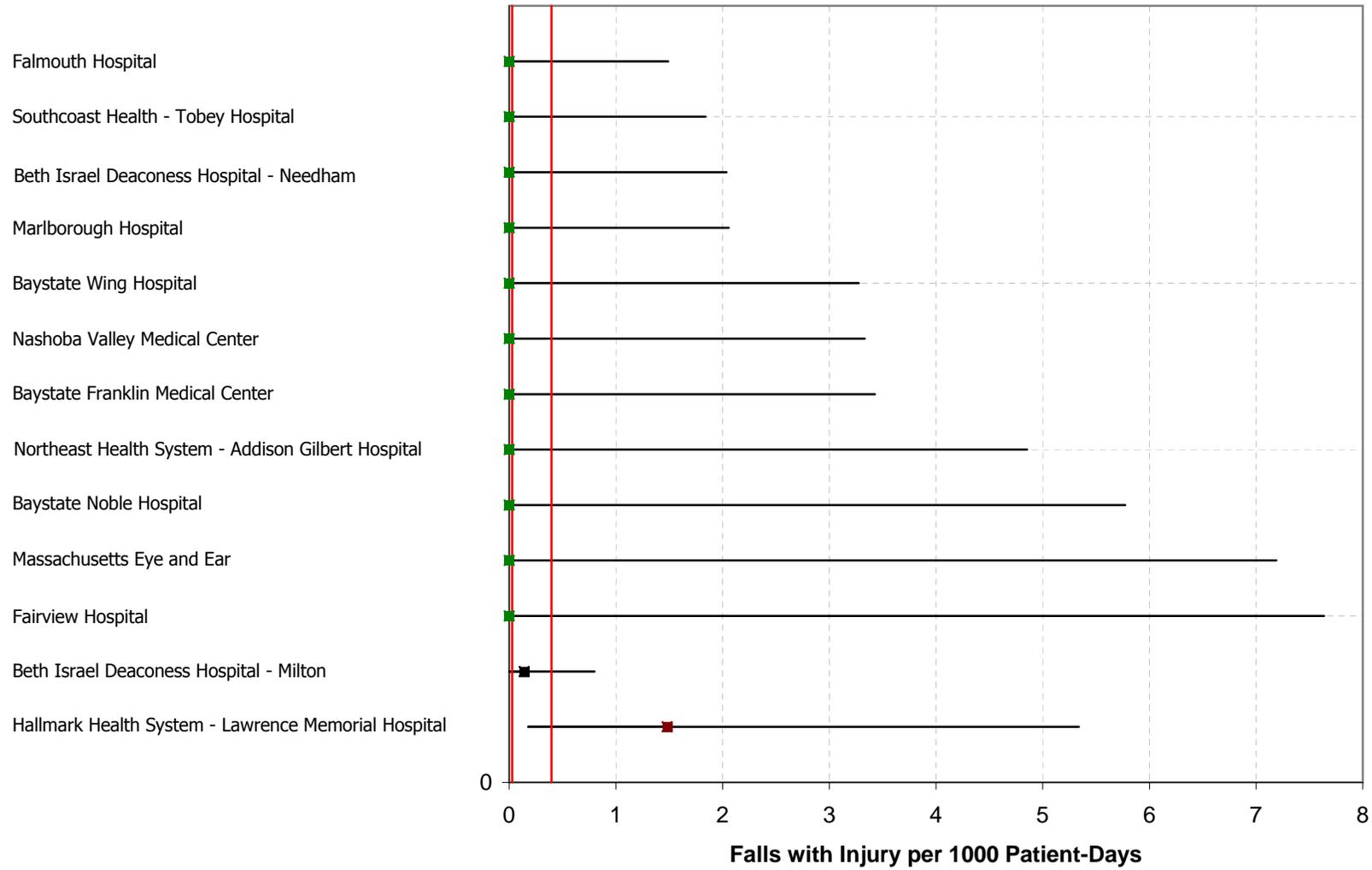
Adult Medical-Surgical Units, More than 500 beds



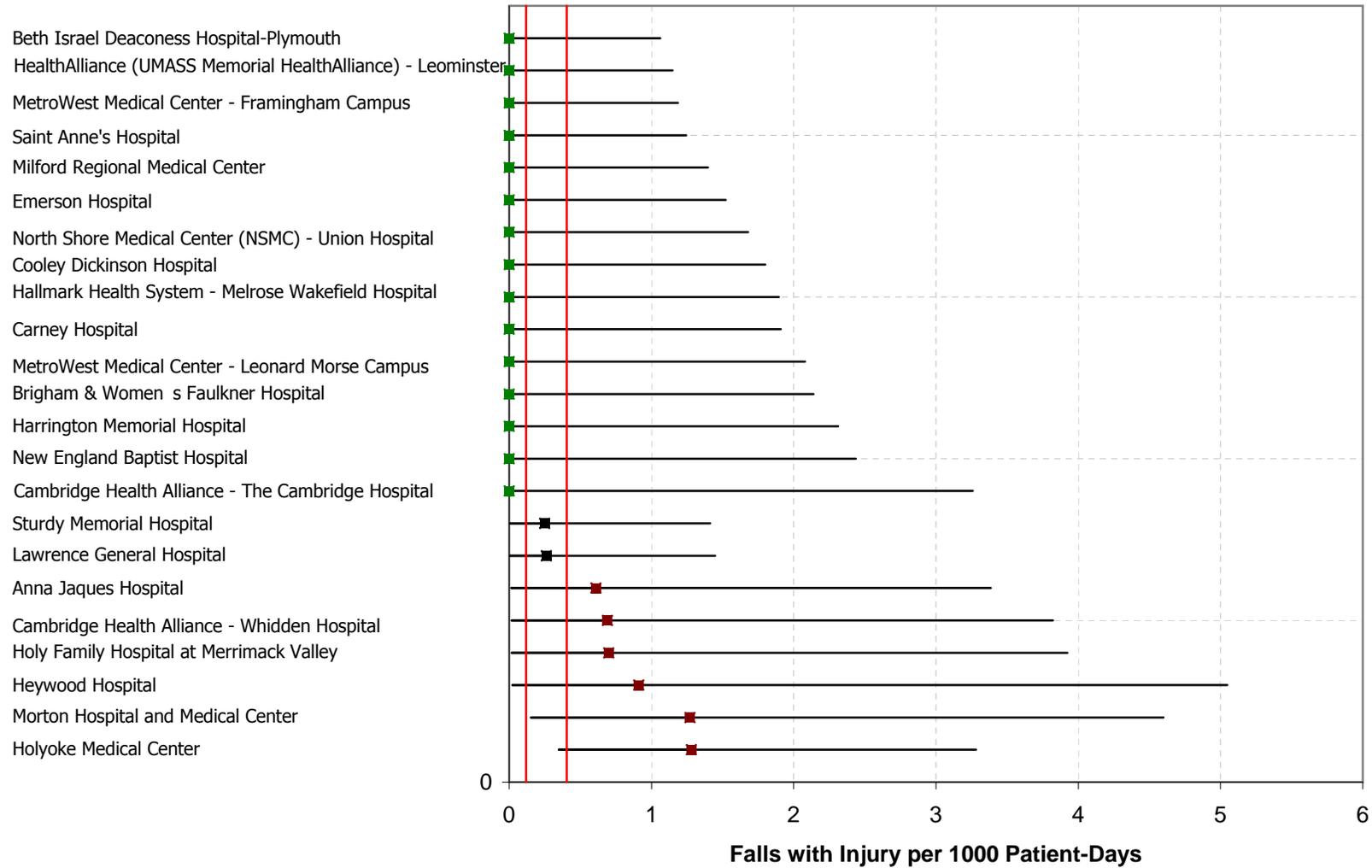
NSC-4 Falls with Injury

January – December 2015

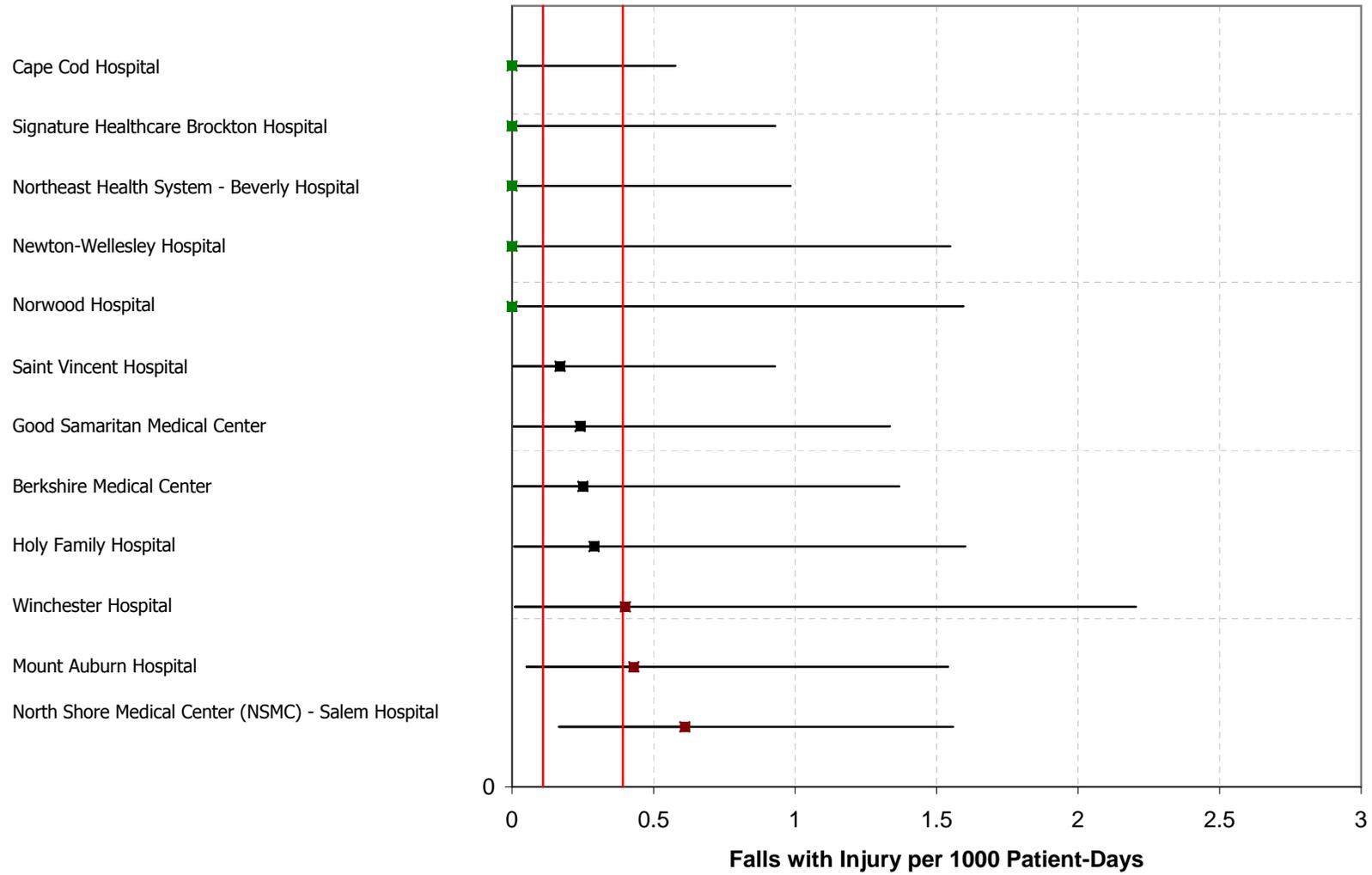
Adult Critical Care Units, Less than 100 beds



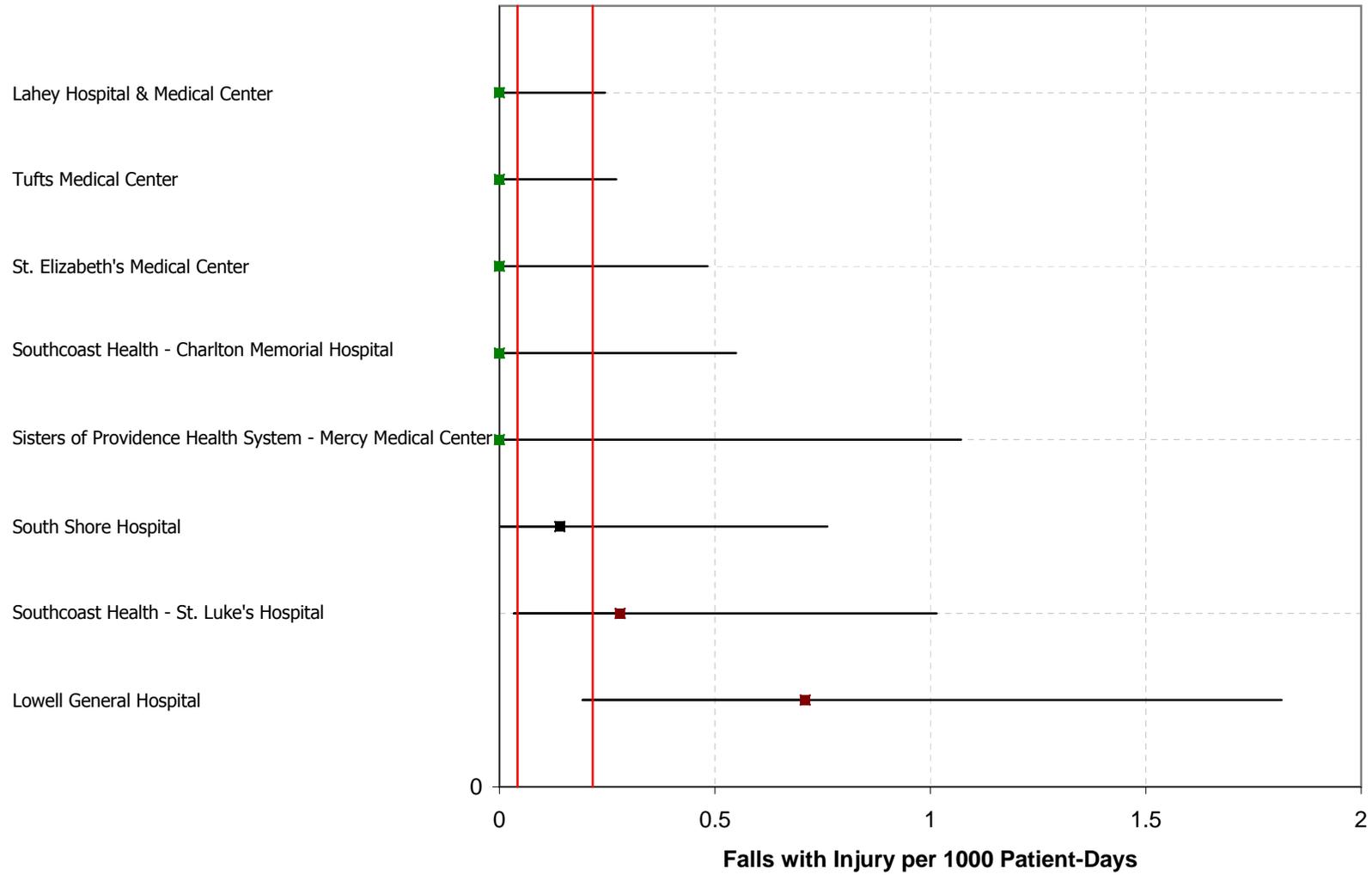
Adult Critical Care Units, 100-199 beds



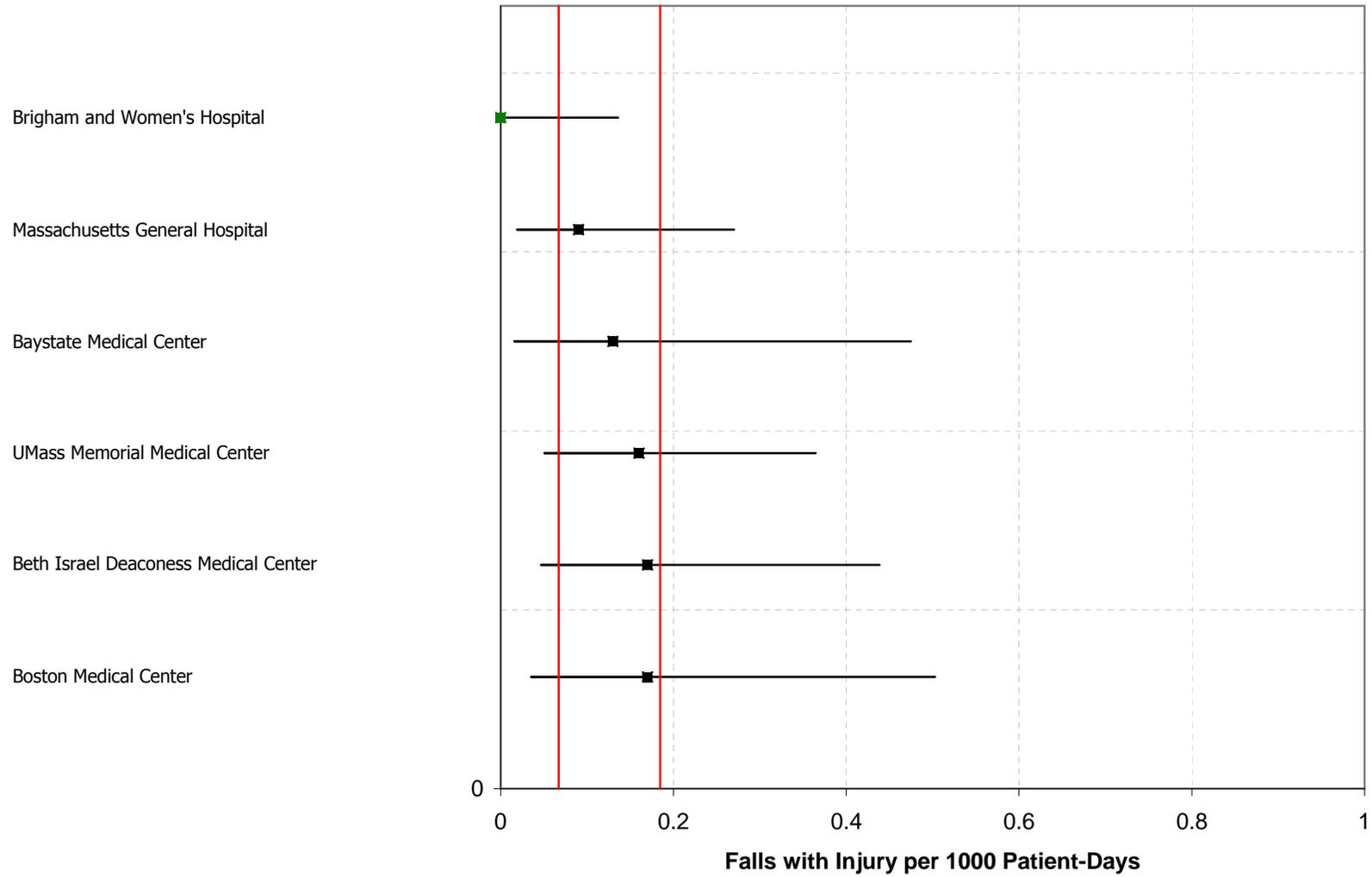
Adult Critical Care Units, 200-299 beds



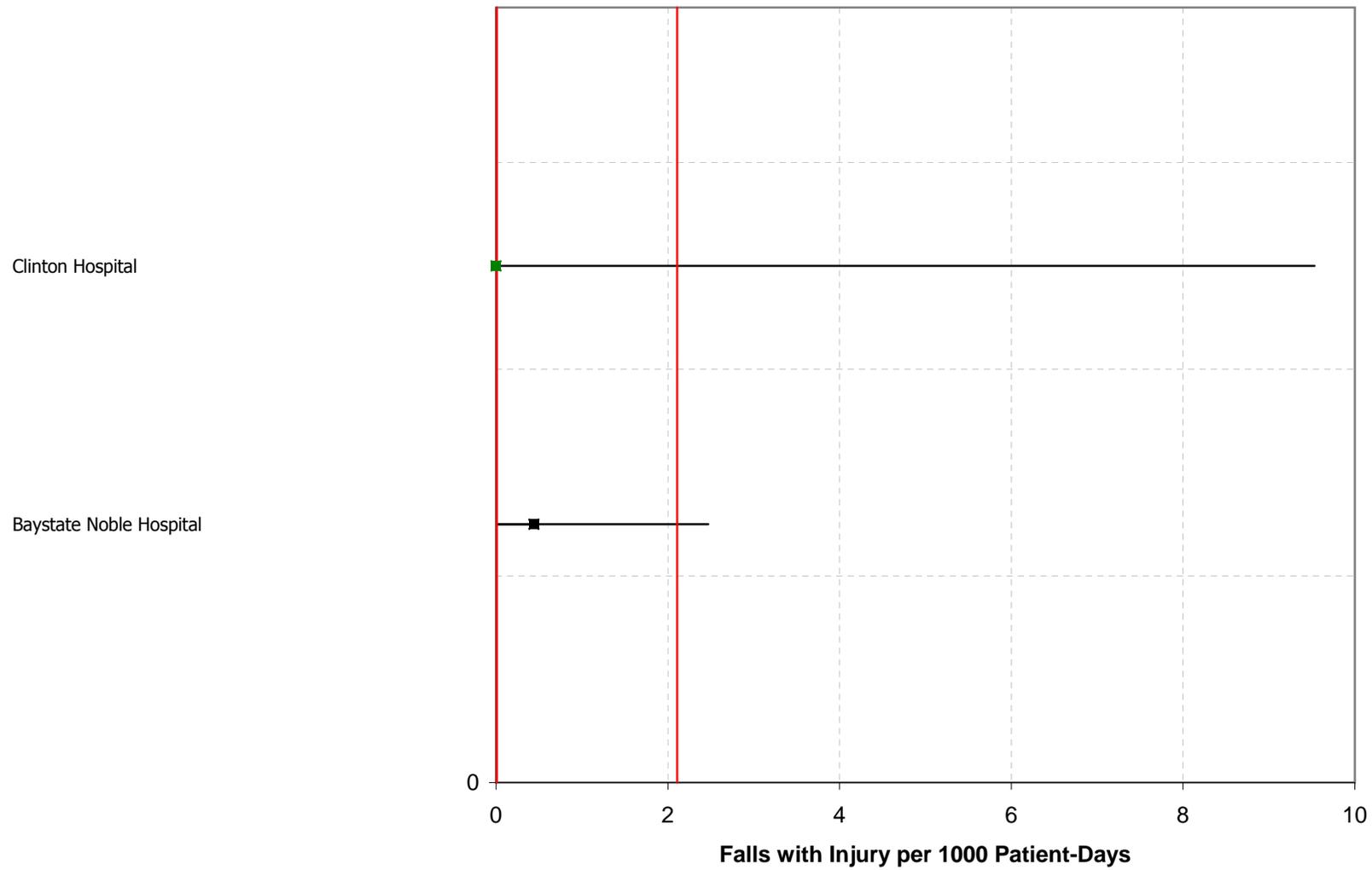
Adult Critical Care Units, 300-399 beds



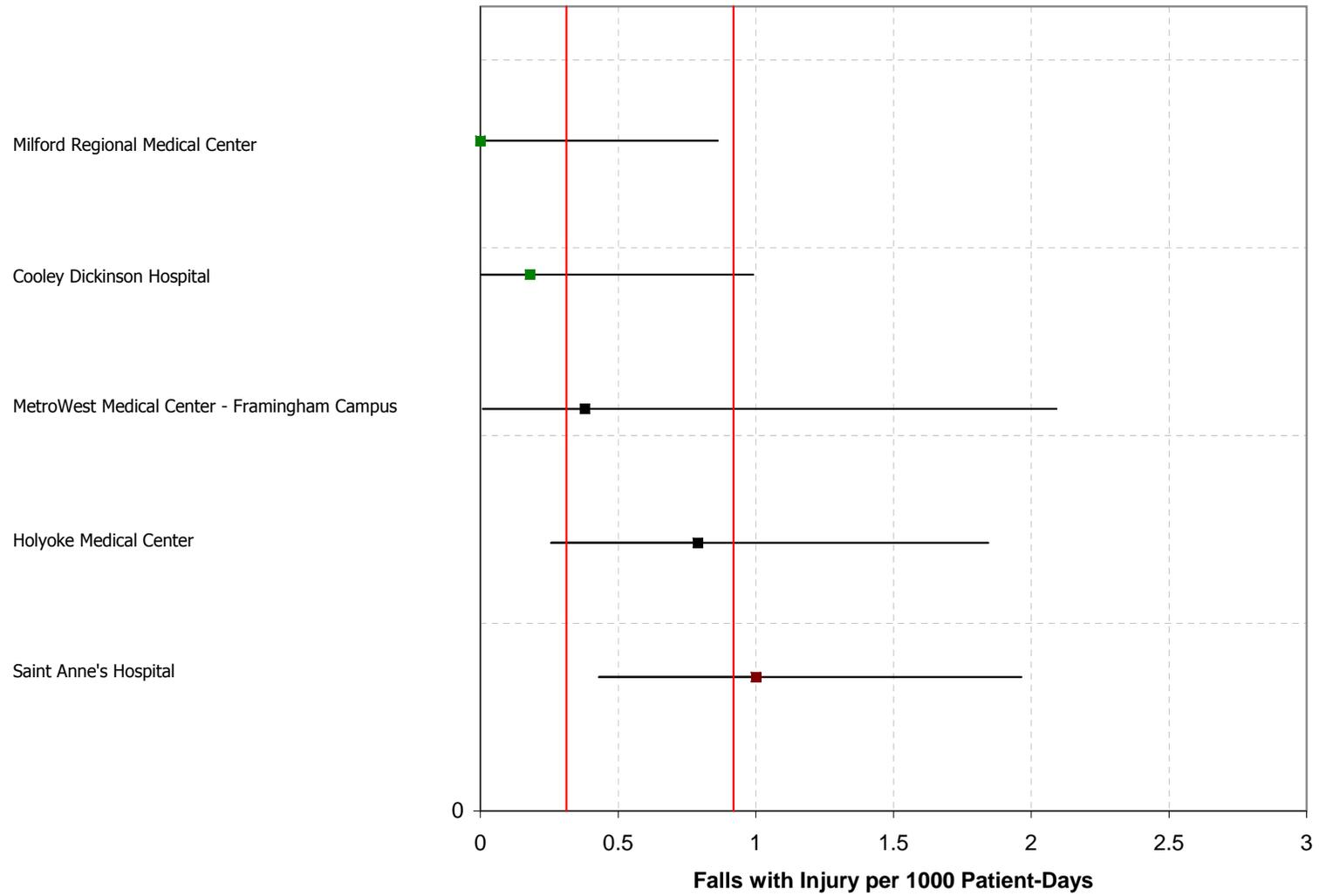
Adult Critical Care Units, More than 500 beds



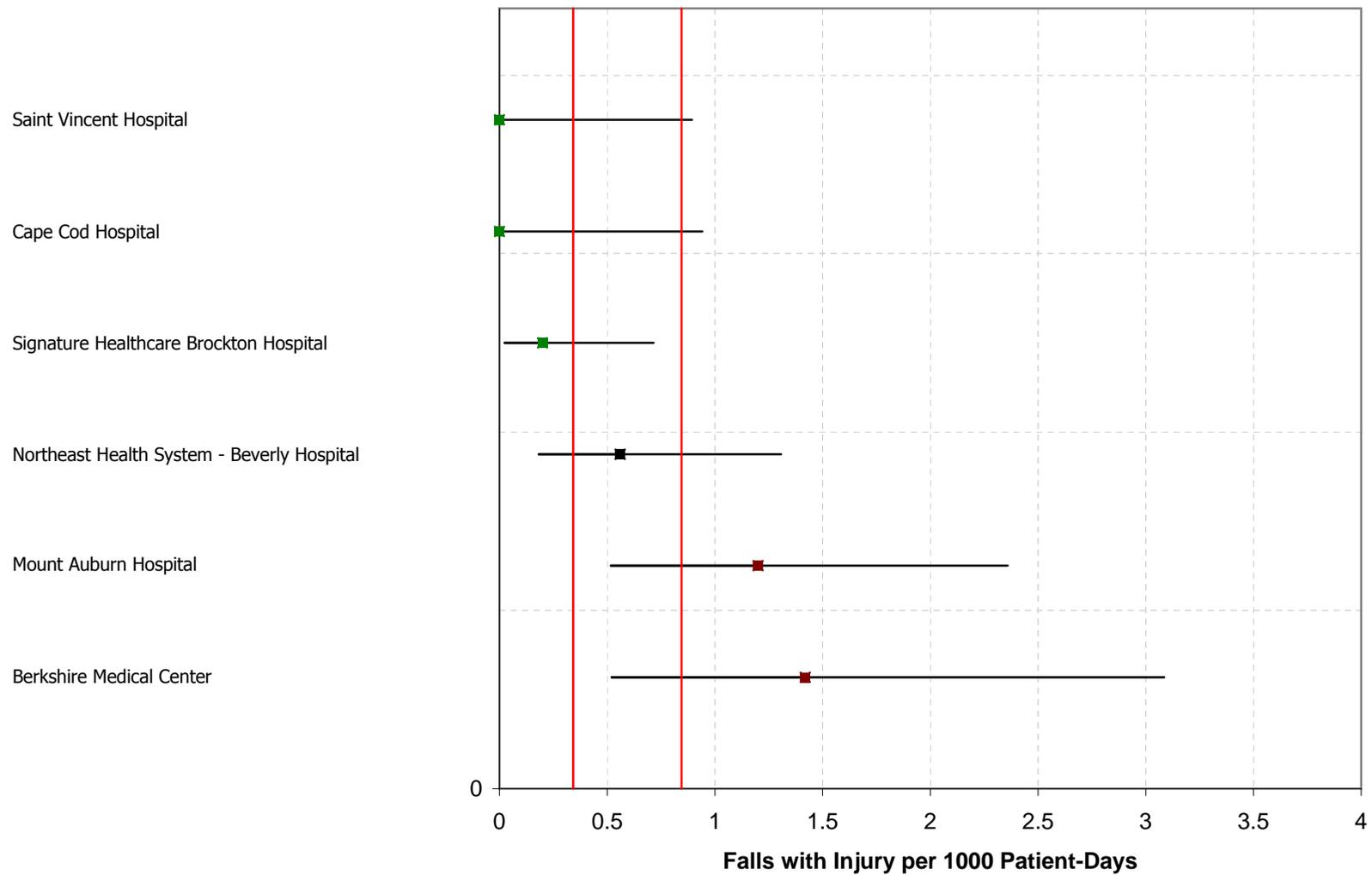
Adult Step-Down Units, Less than 100 beds



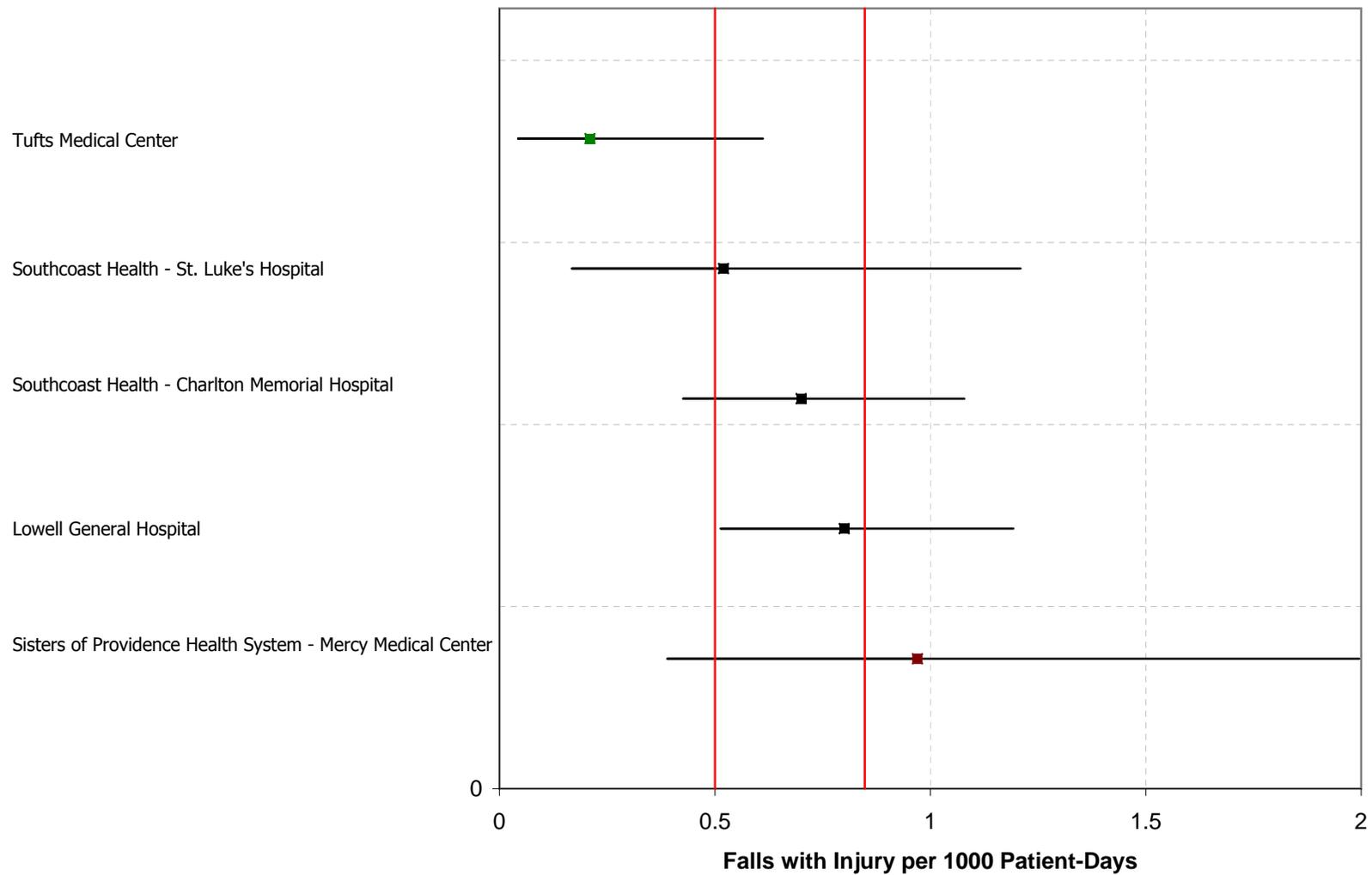
Adult Step-Down Units, 100-199 beds



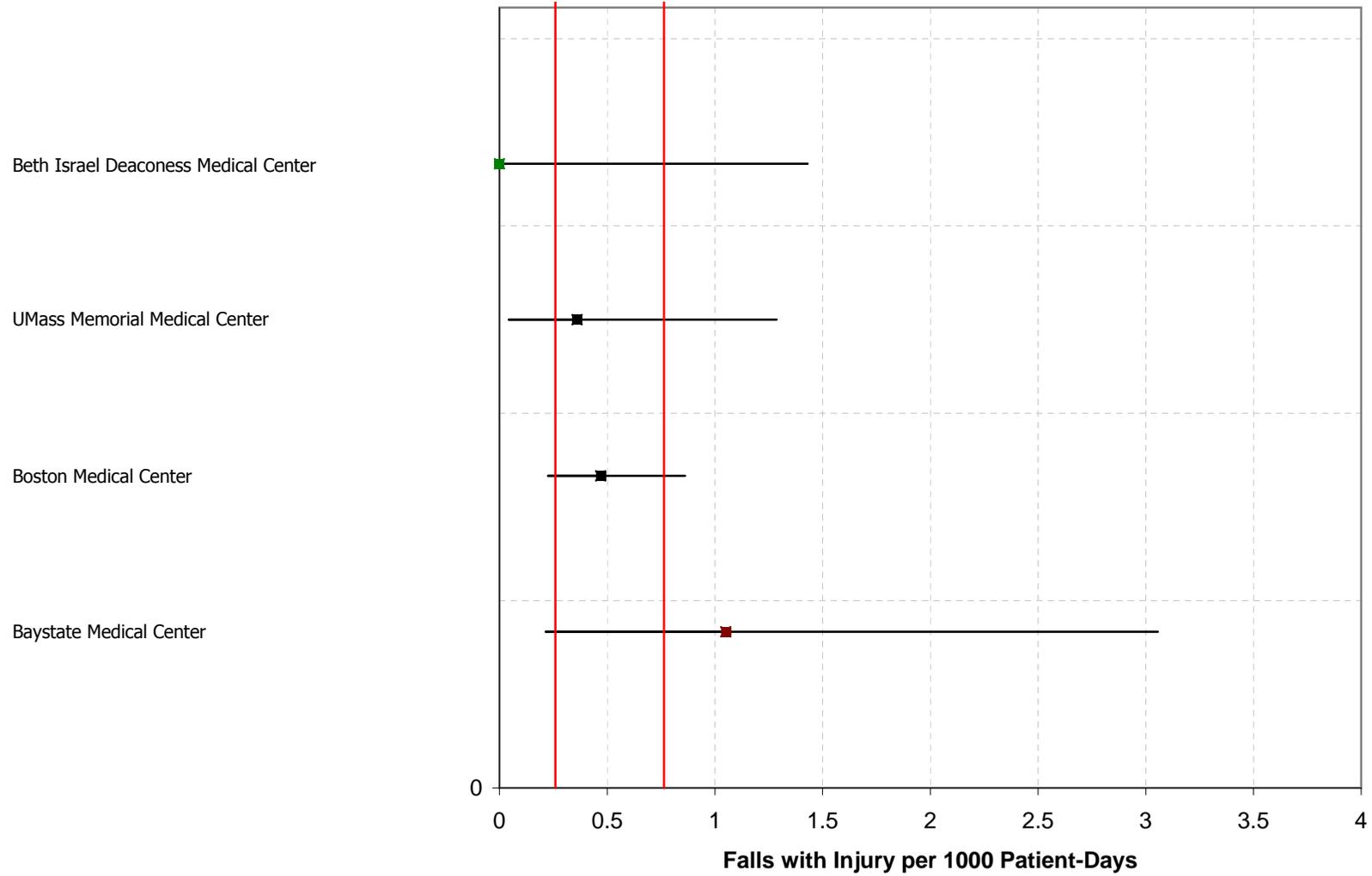
Adult Step-Down Units, 200-299 beds



Adult Step-Down Units, 300-399 beds

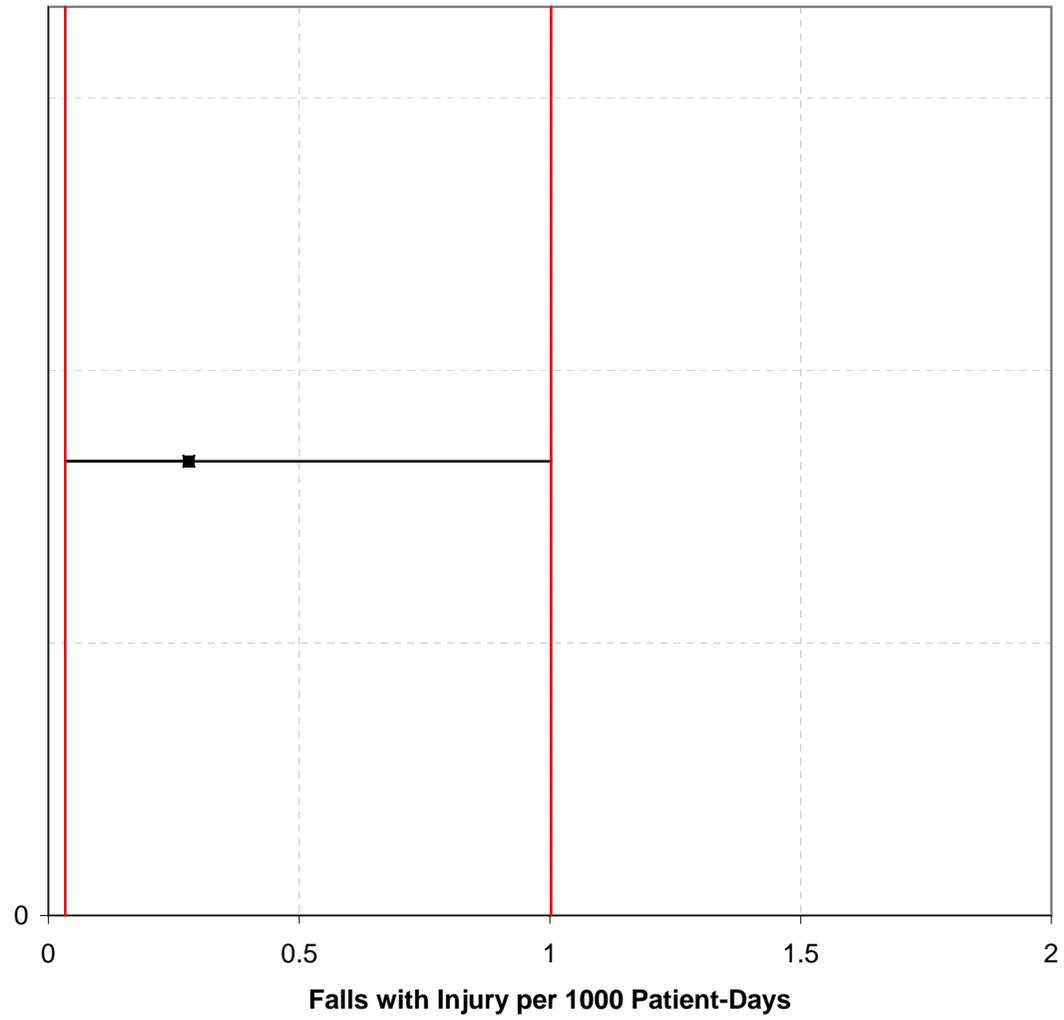


Adult Step-Down Units, More than 500 beds

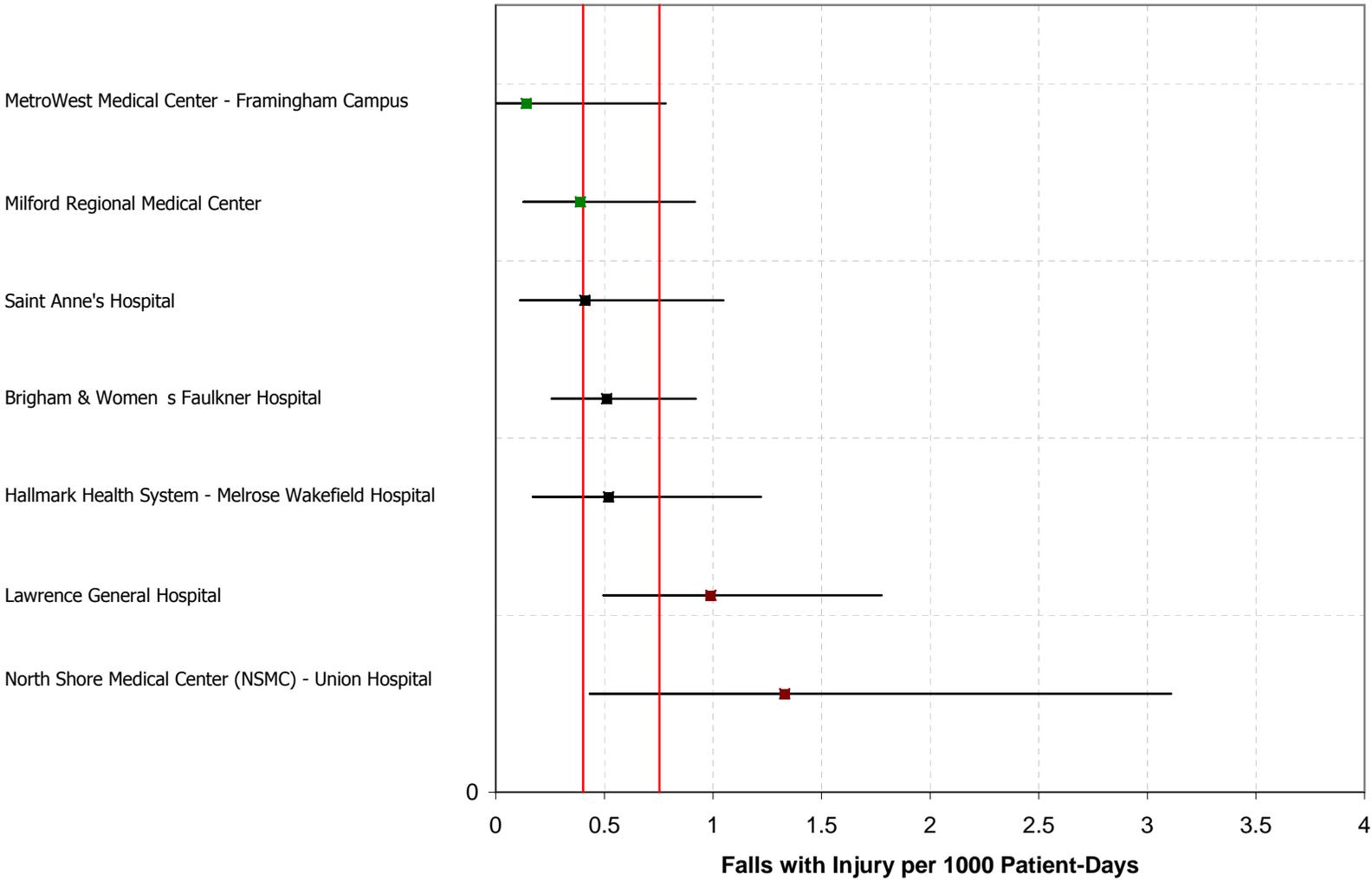


Adult Medical Units, Less than 100 beds

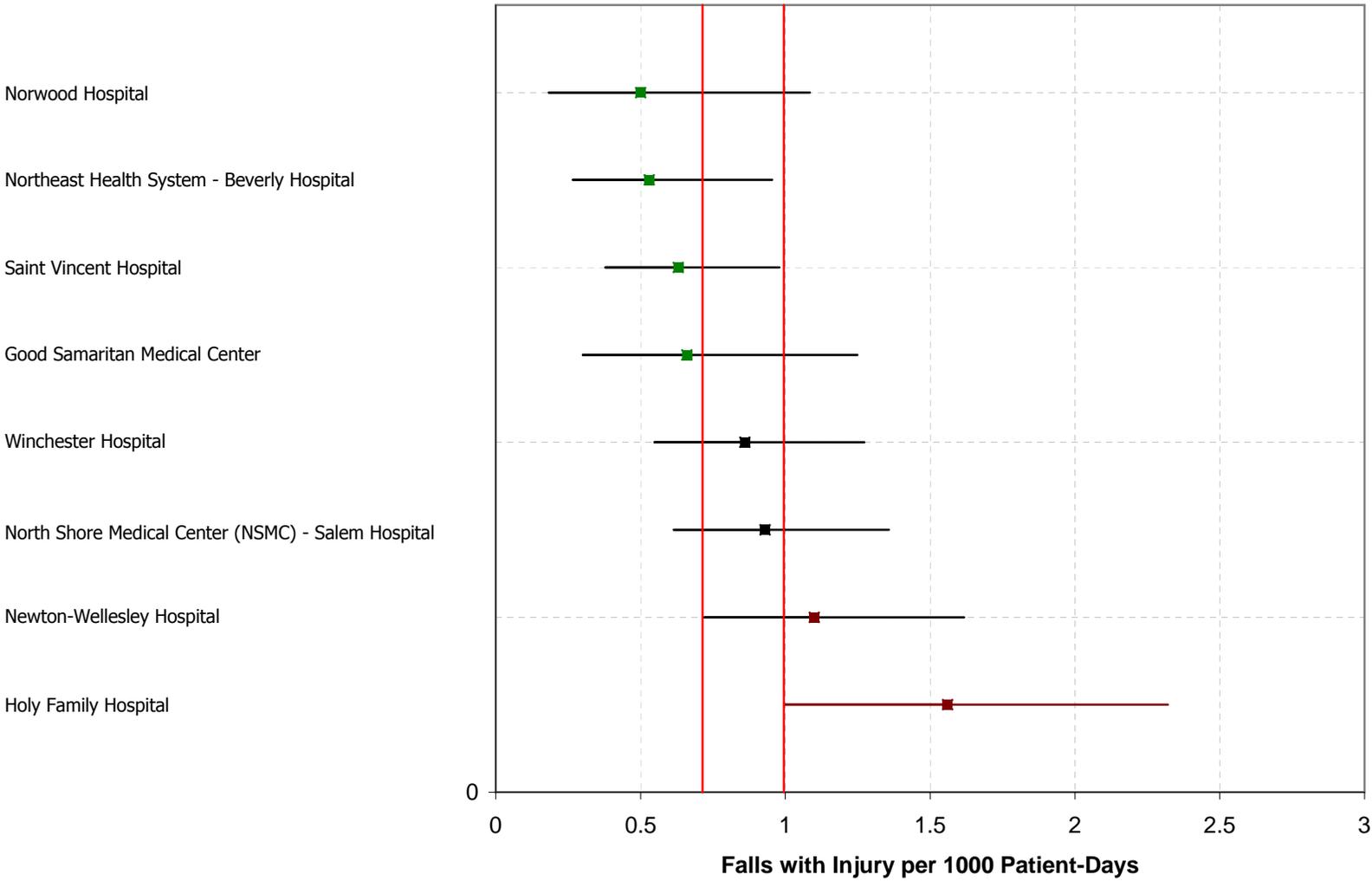
Northeast Health System - Addison Gilbert Hospital



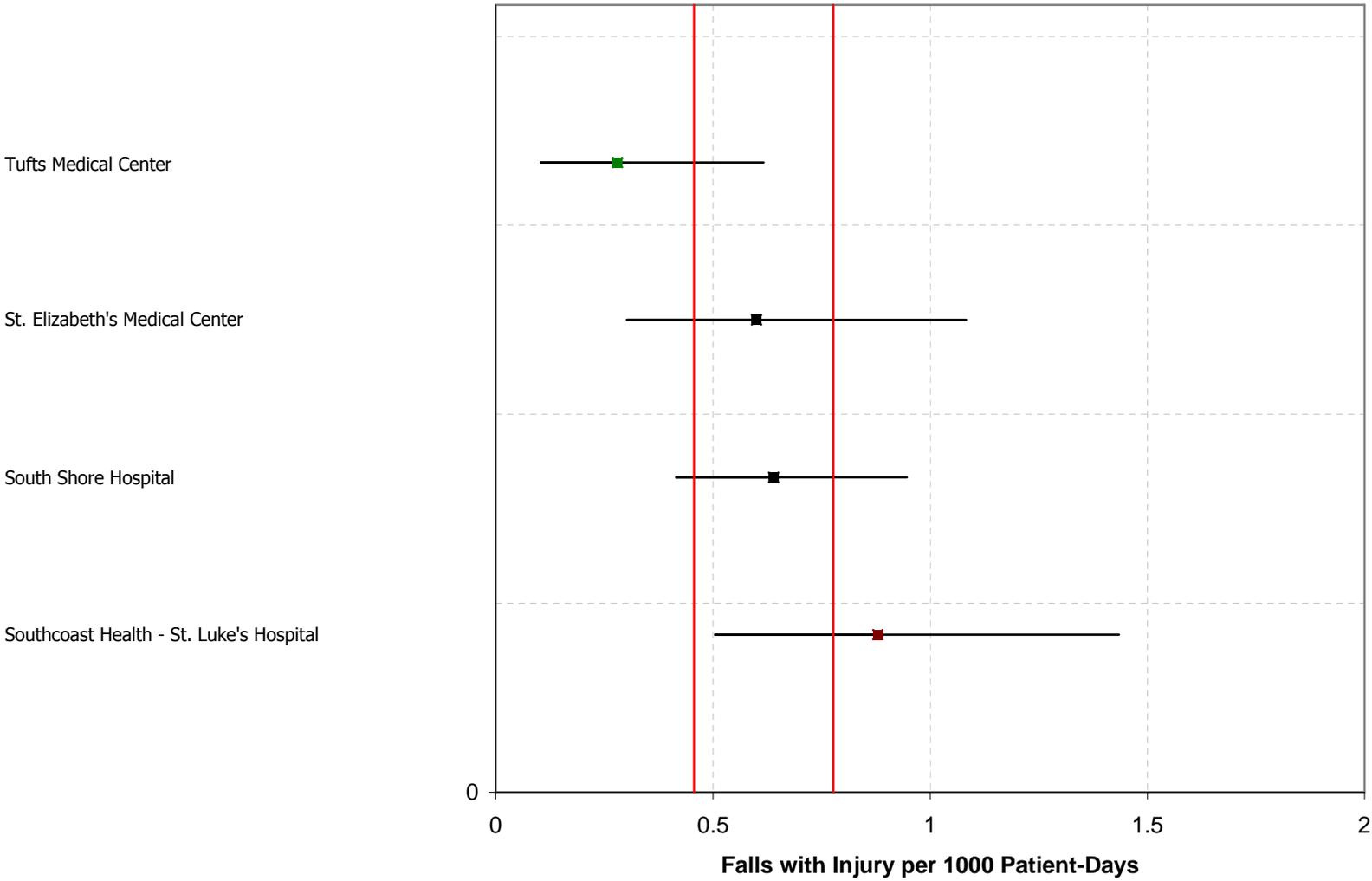
Adult Medical Units, 100-199 beds



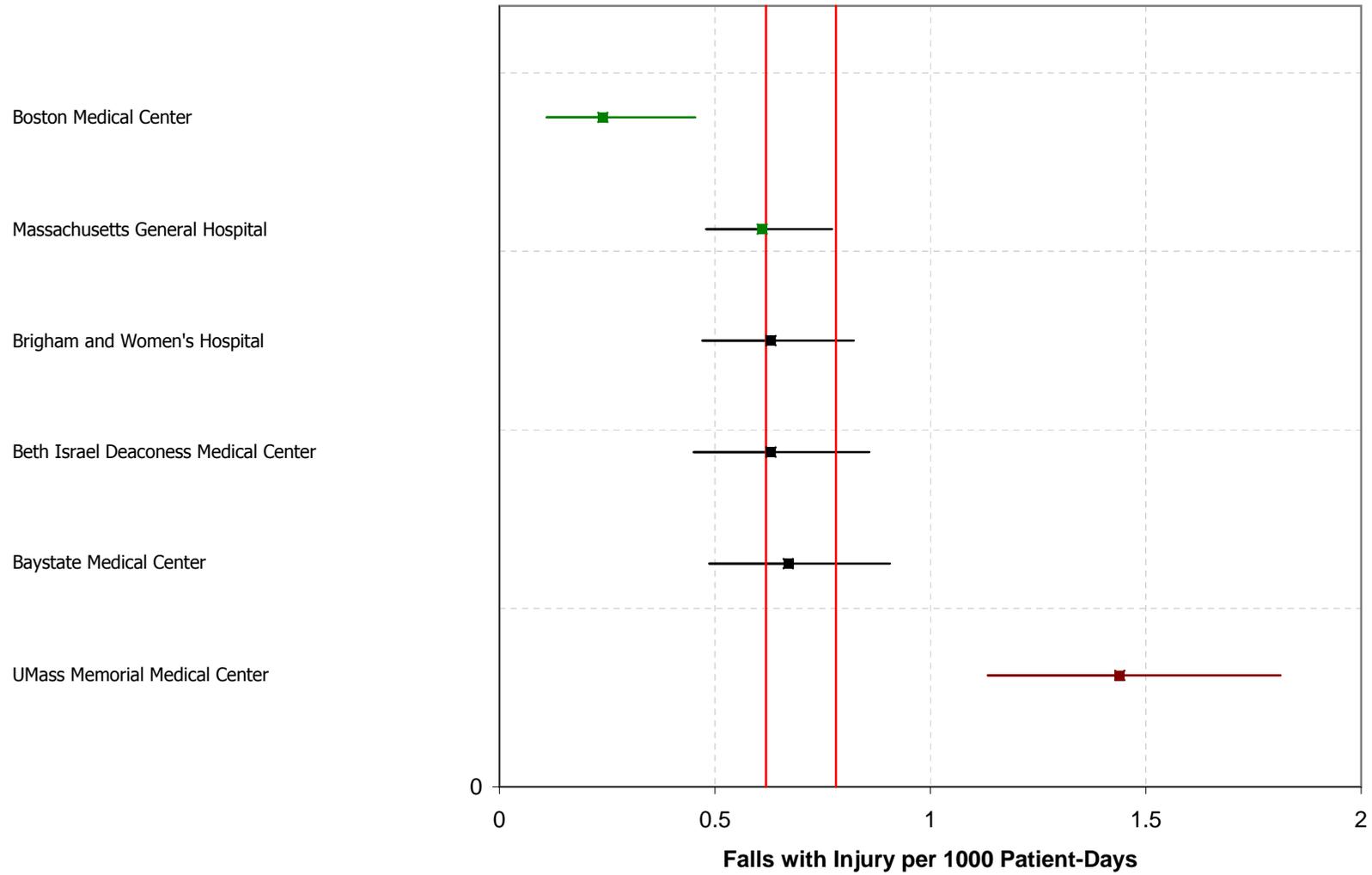
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Adult Medical Units, 300-399 beds

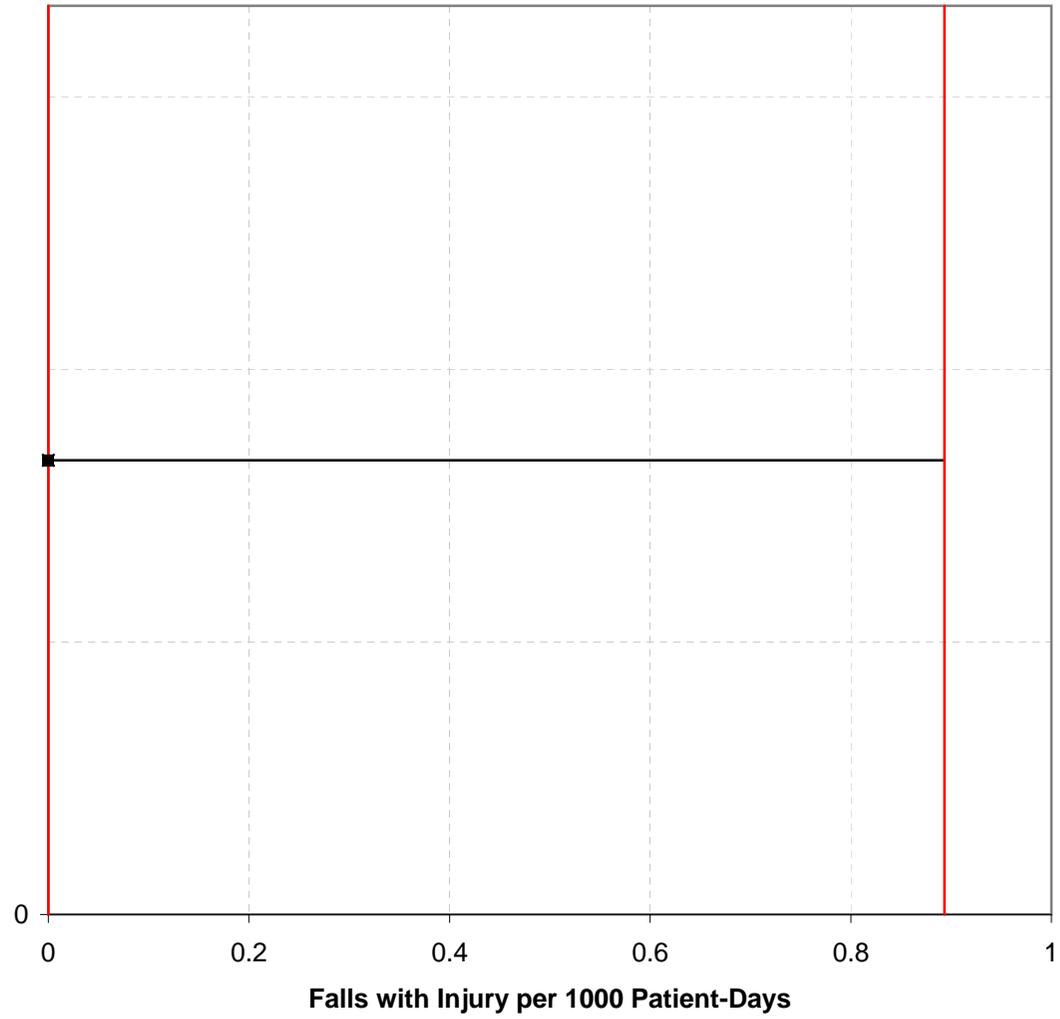


Adult Medical Units, More than 500 beds

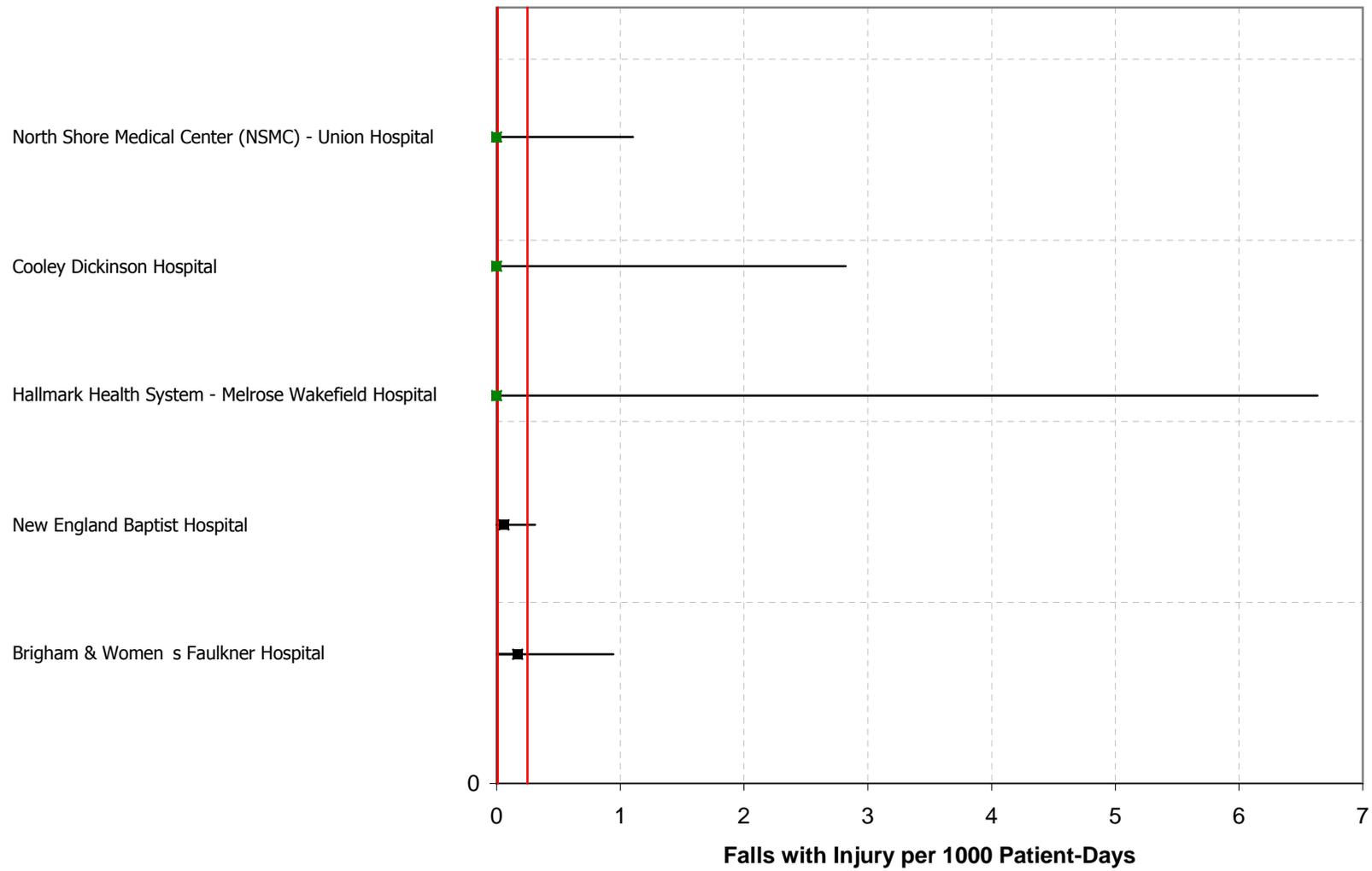


Adult Surgical Units, Less than 100 beds

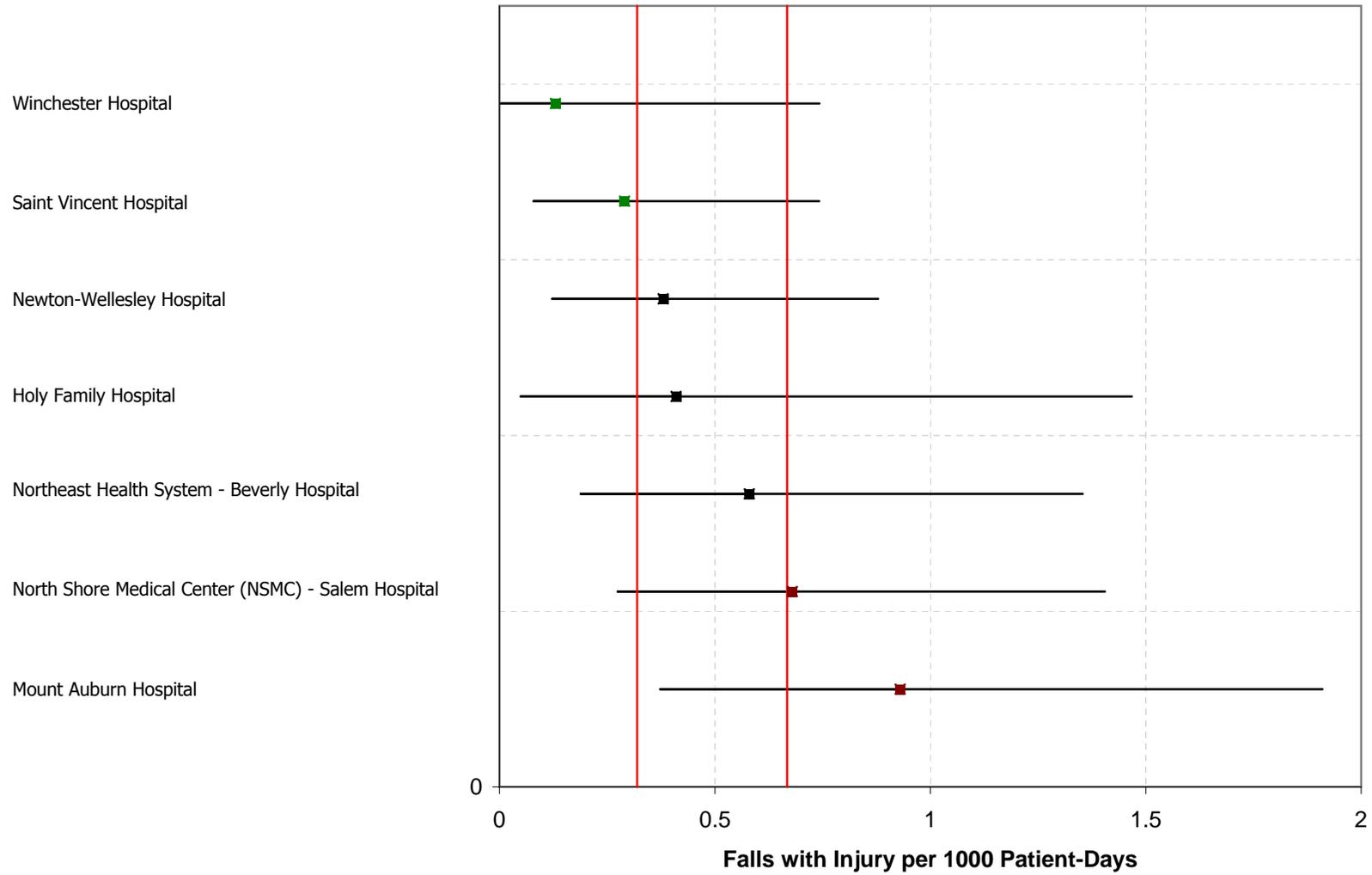
Falmouth Hospital



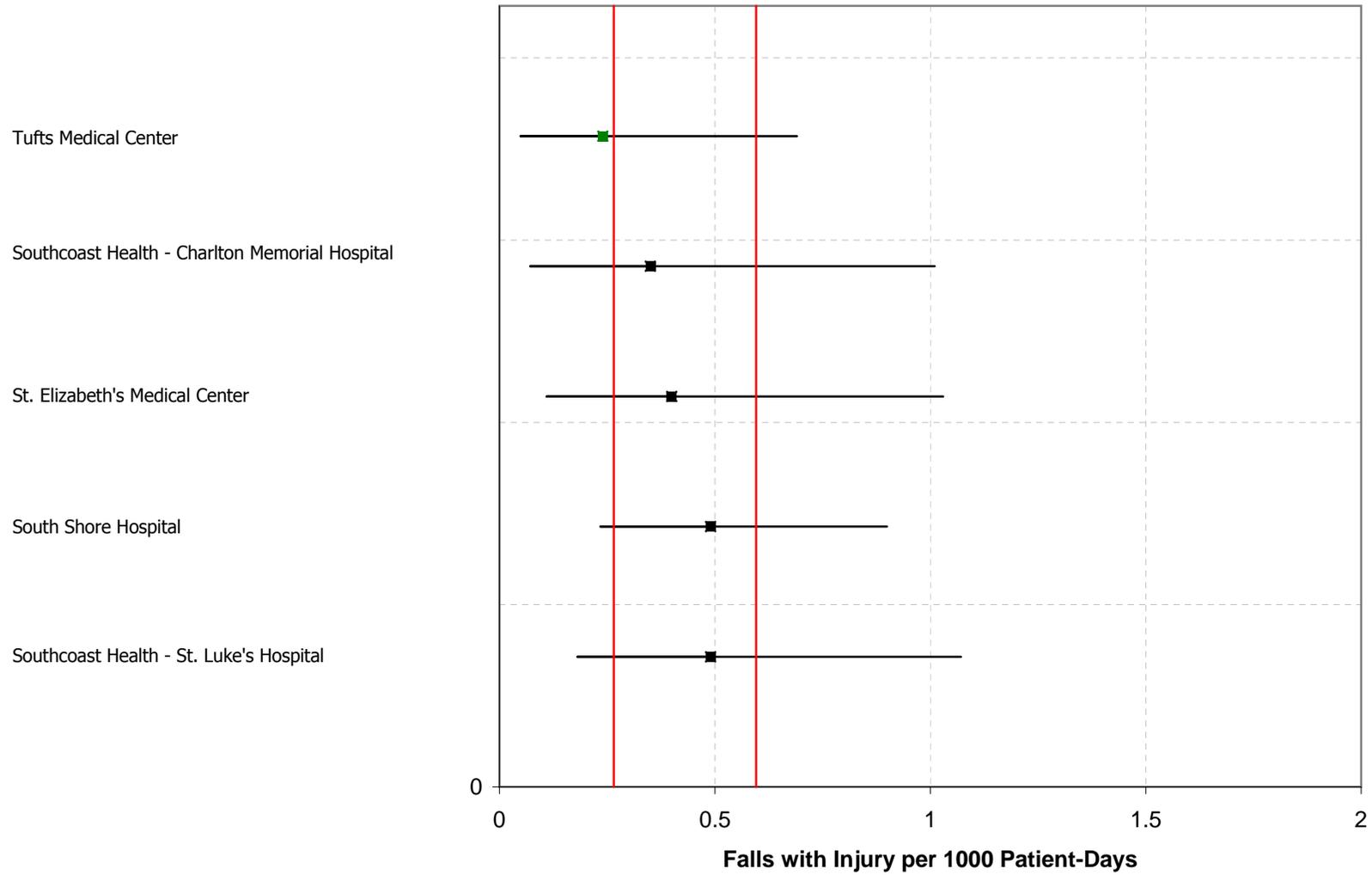
Adult Surgical Units, 100-199 beds



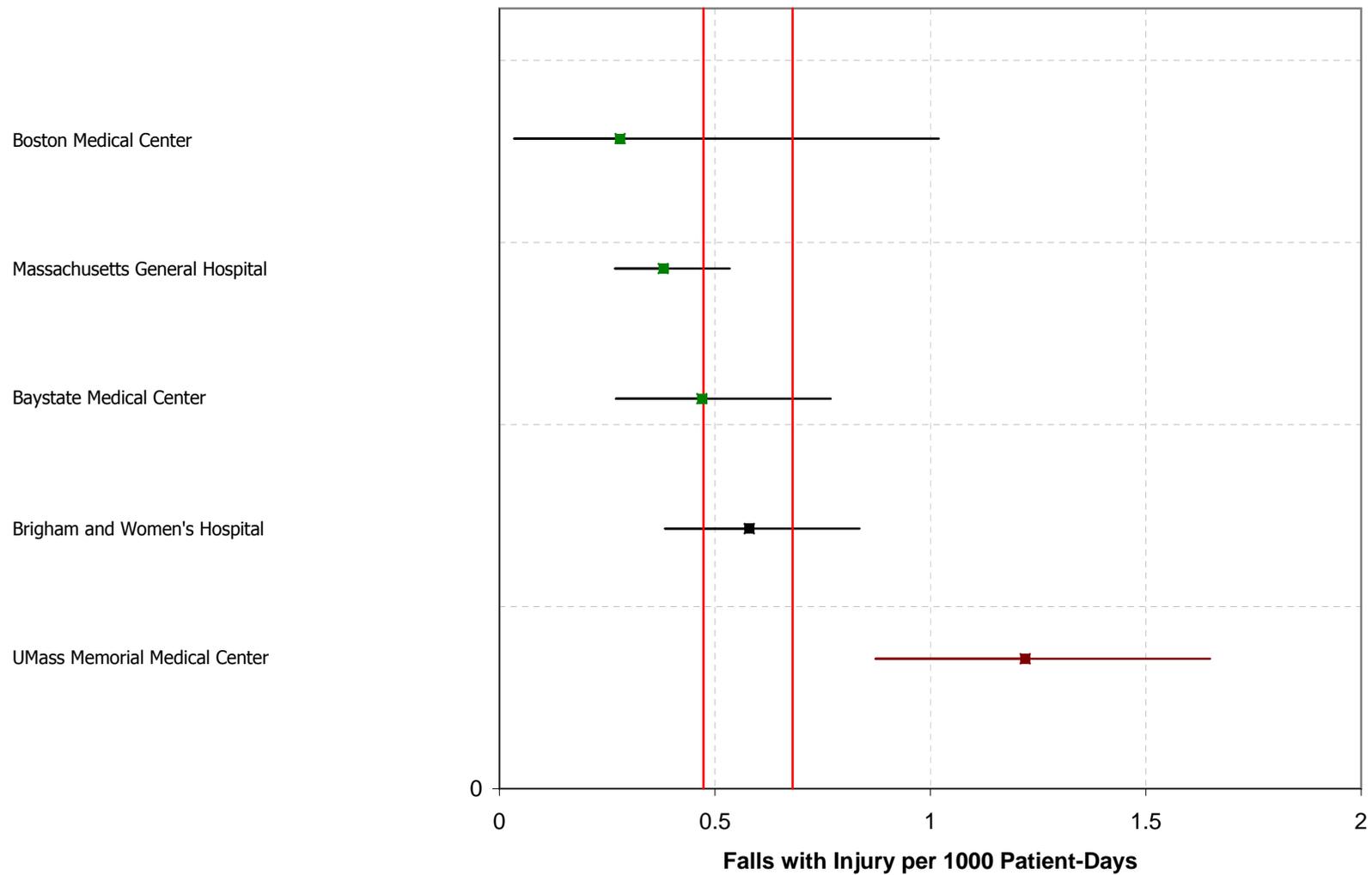
Adult Surgical Units, 200-299 beds



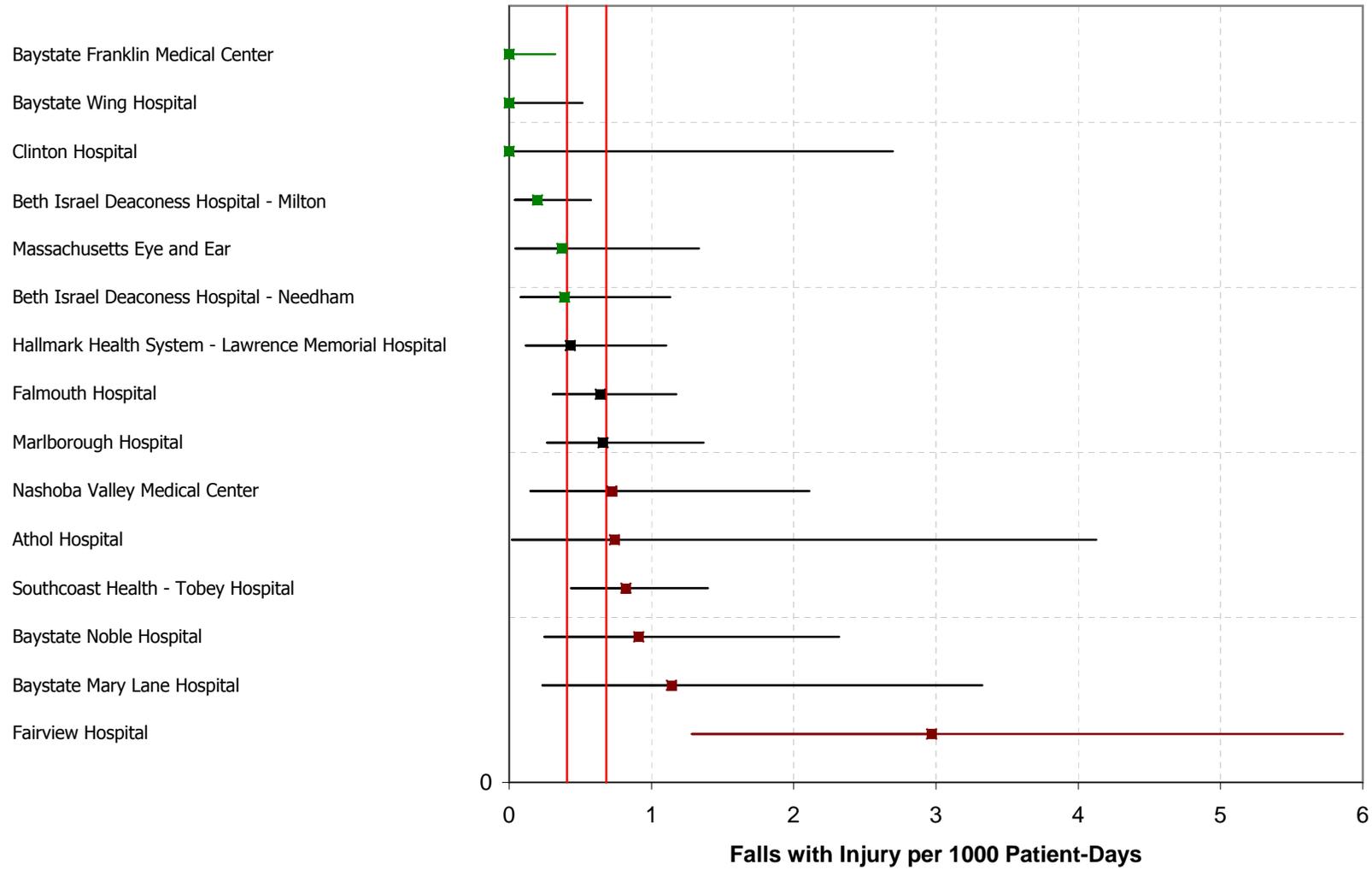
Adult Surgical Units, 300-399 beds



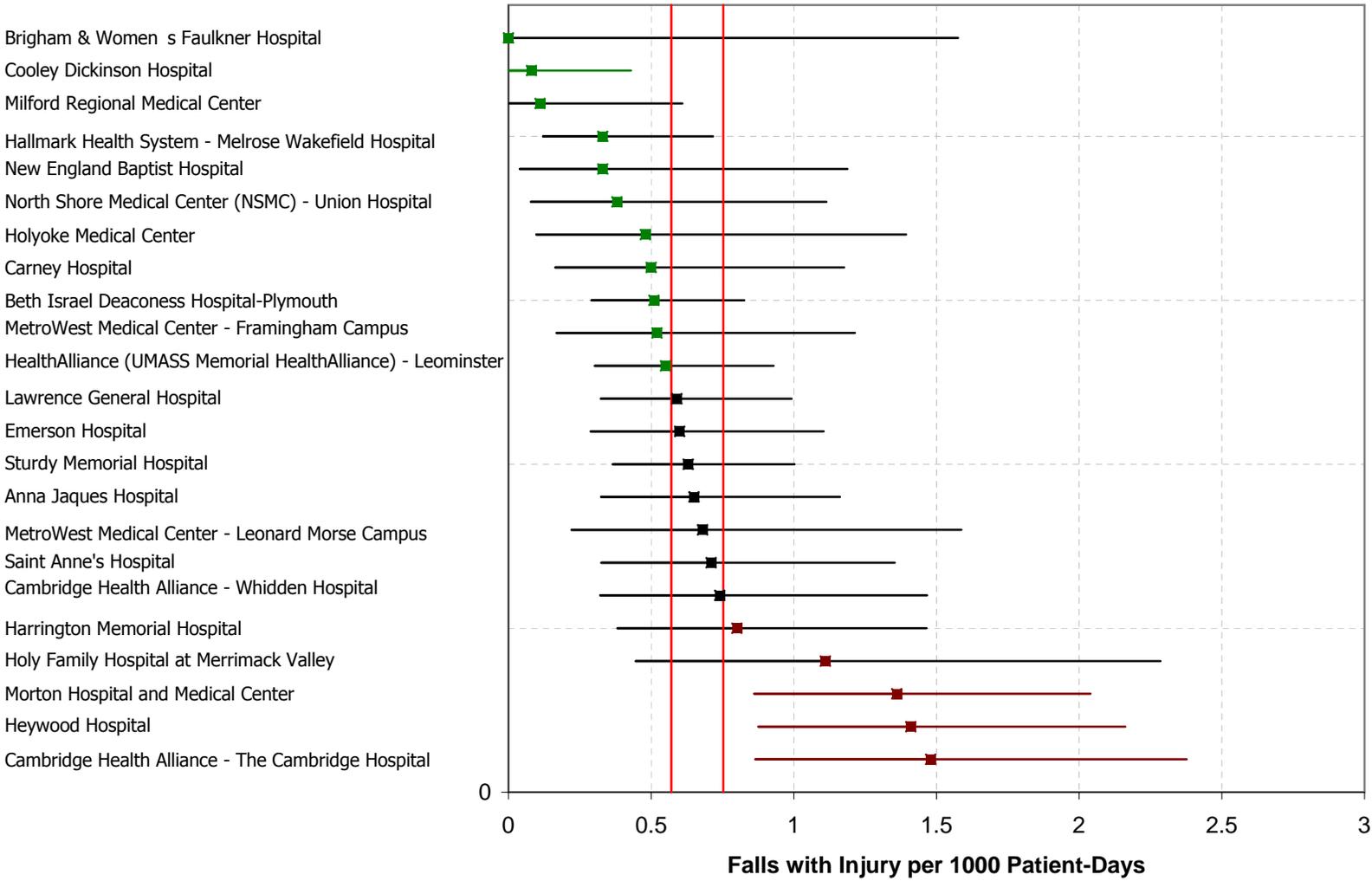
Adult Surgical Units, More than 500 beds



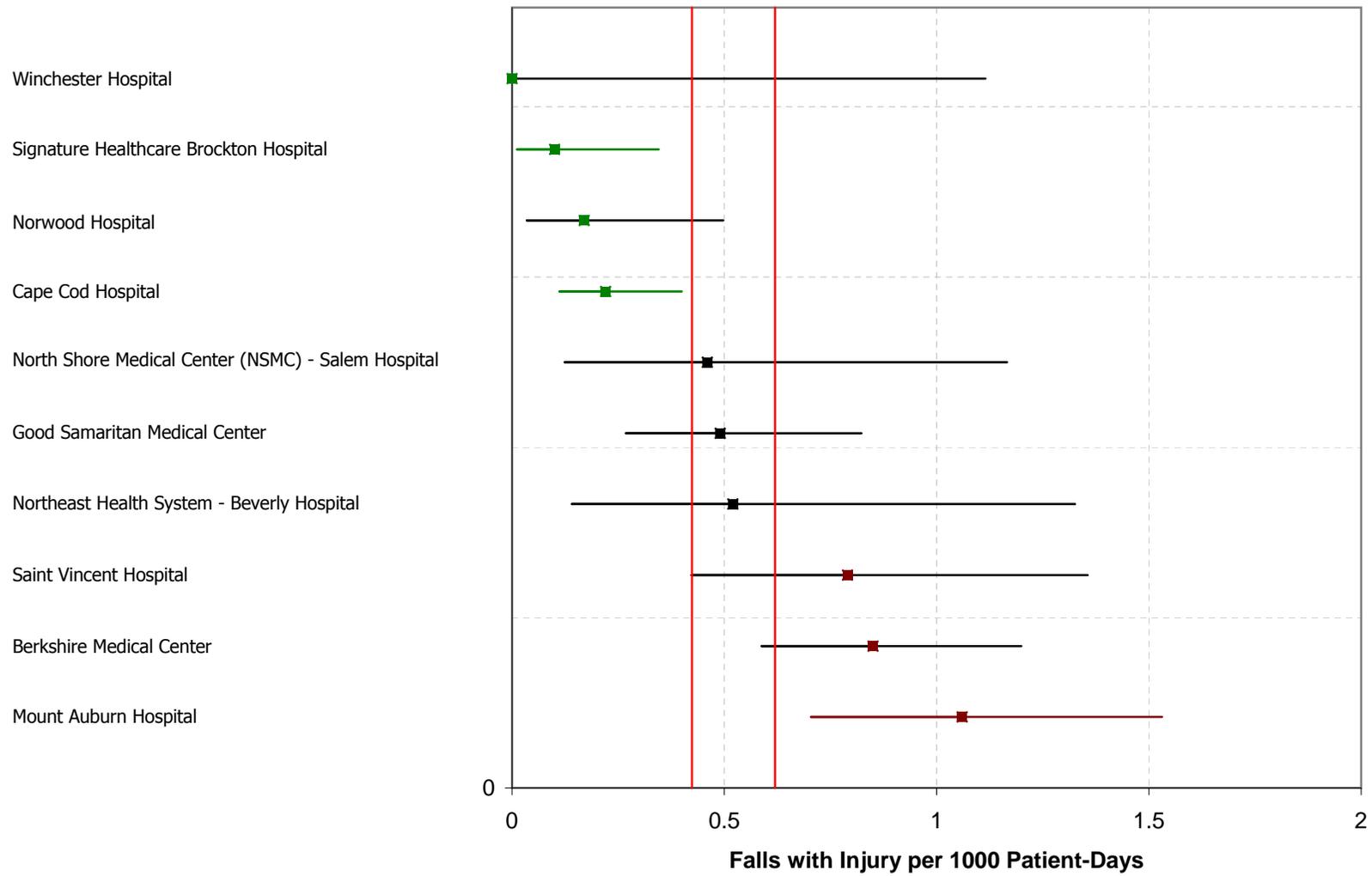
Adult Medical-Surgical Units, Less than 100 beds



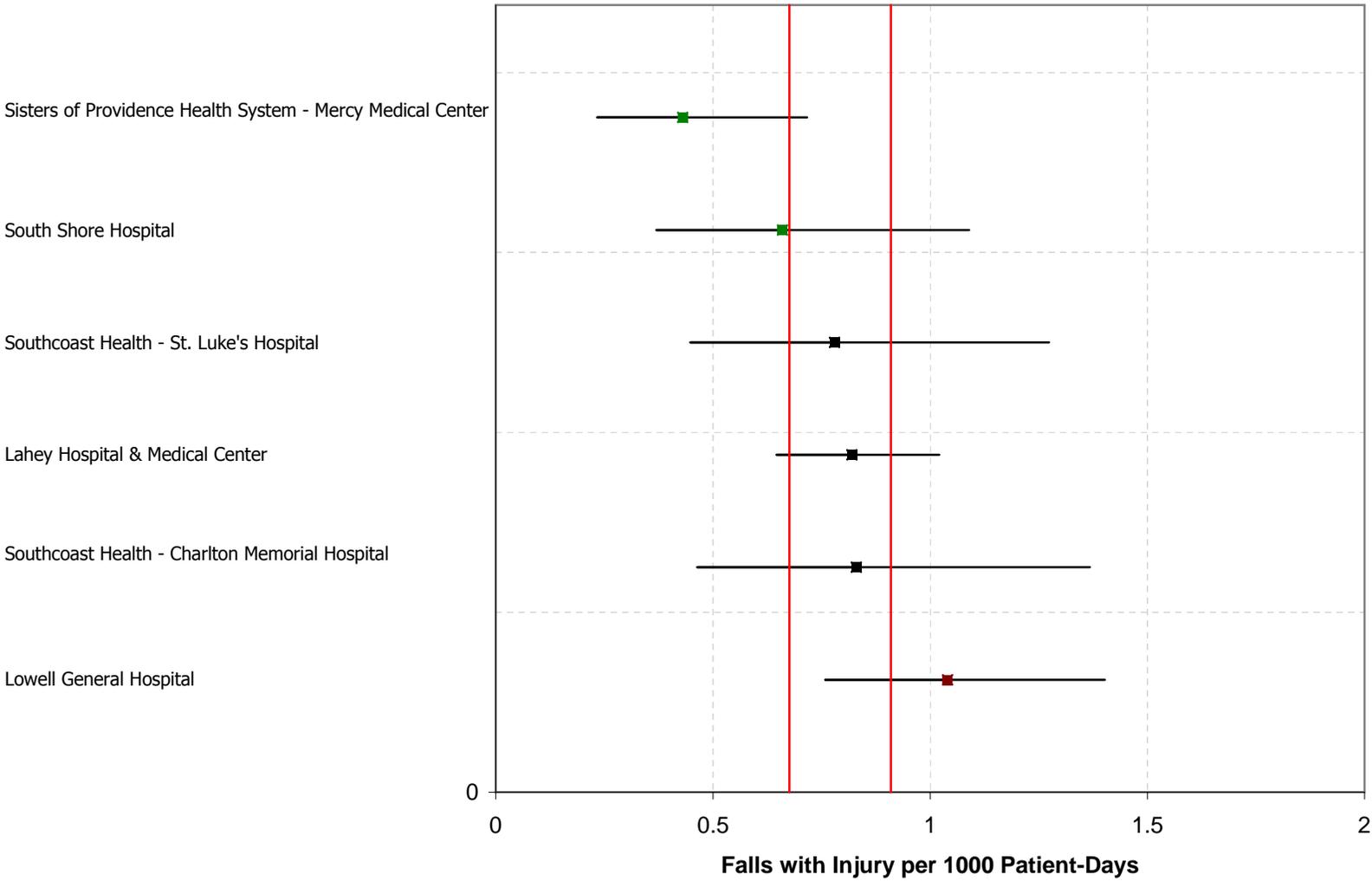
Adult Medical-Surgical Units, 100-199 beds



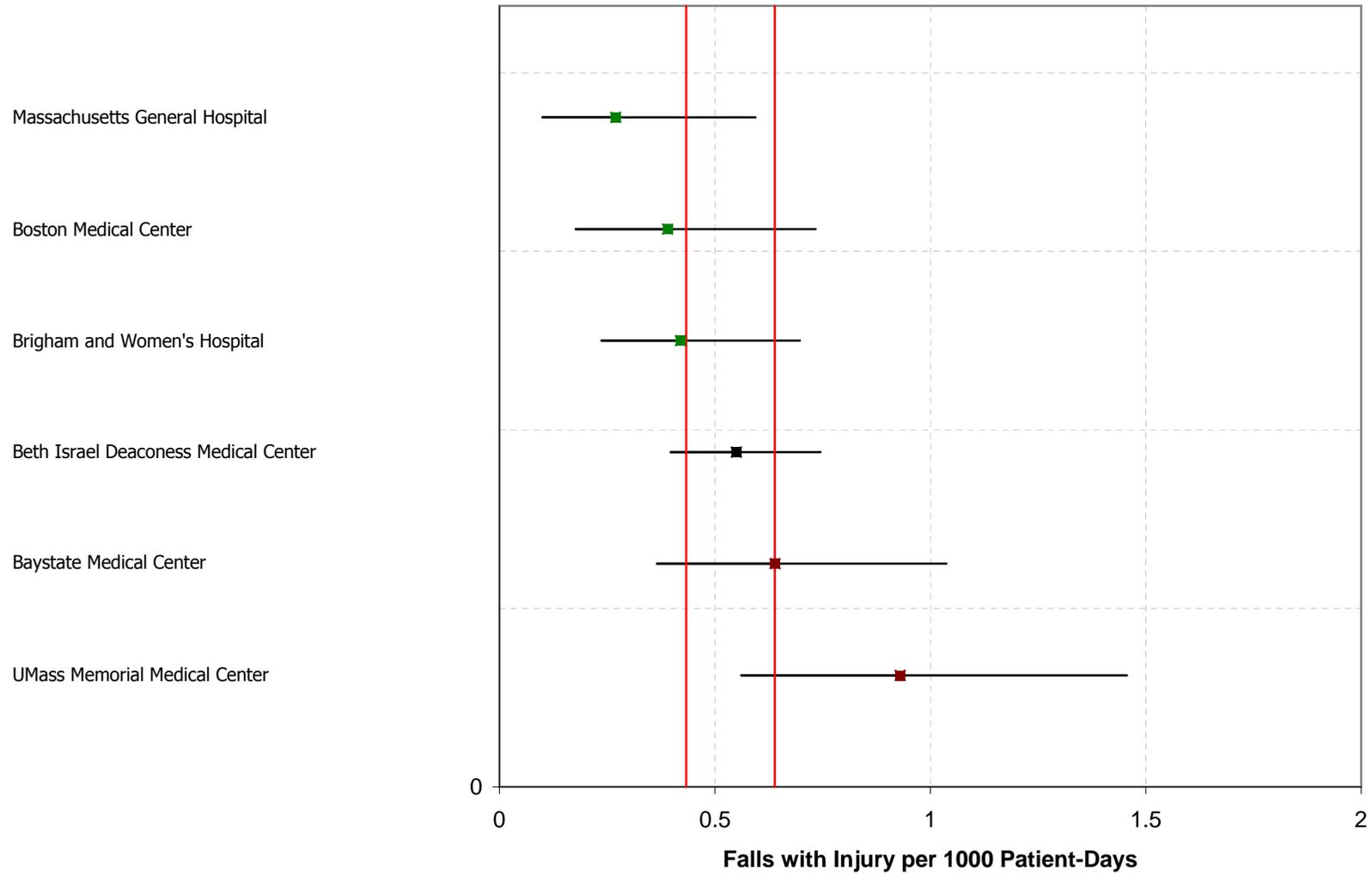
Adult Medical-Surgical Units, 200-299 beds



Adult Medical-Surgical Units, 300-399 beds



Adult Medical-Surgical Units, More than 500 beds



Specialty Hospitals

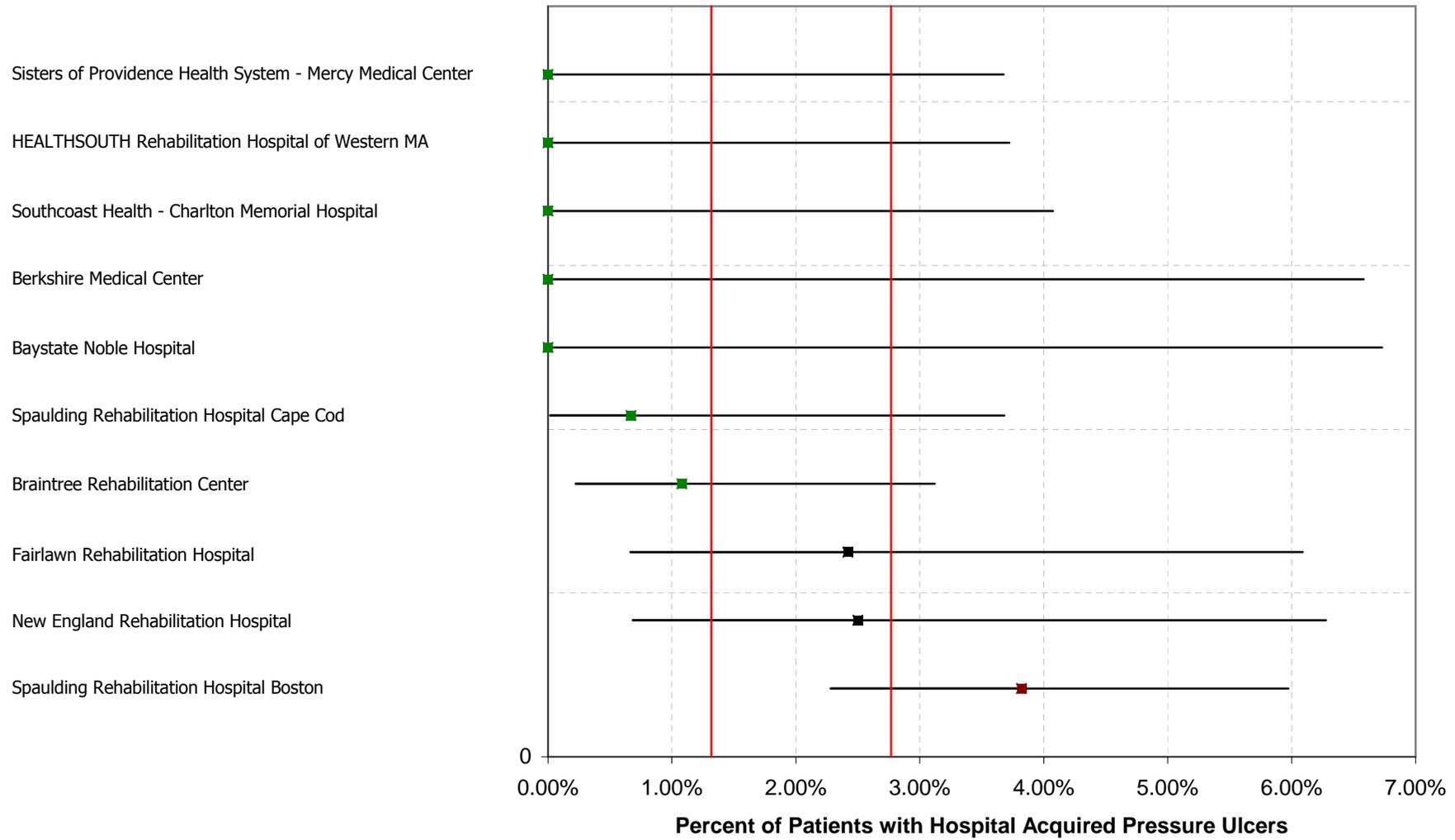
NSC-2 Pressure Ulcer Prevalence

March 2015, June 2015 *, September, 2015 and
December 2015*

* Optional studies

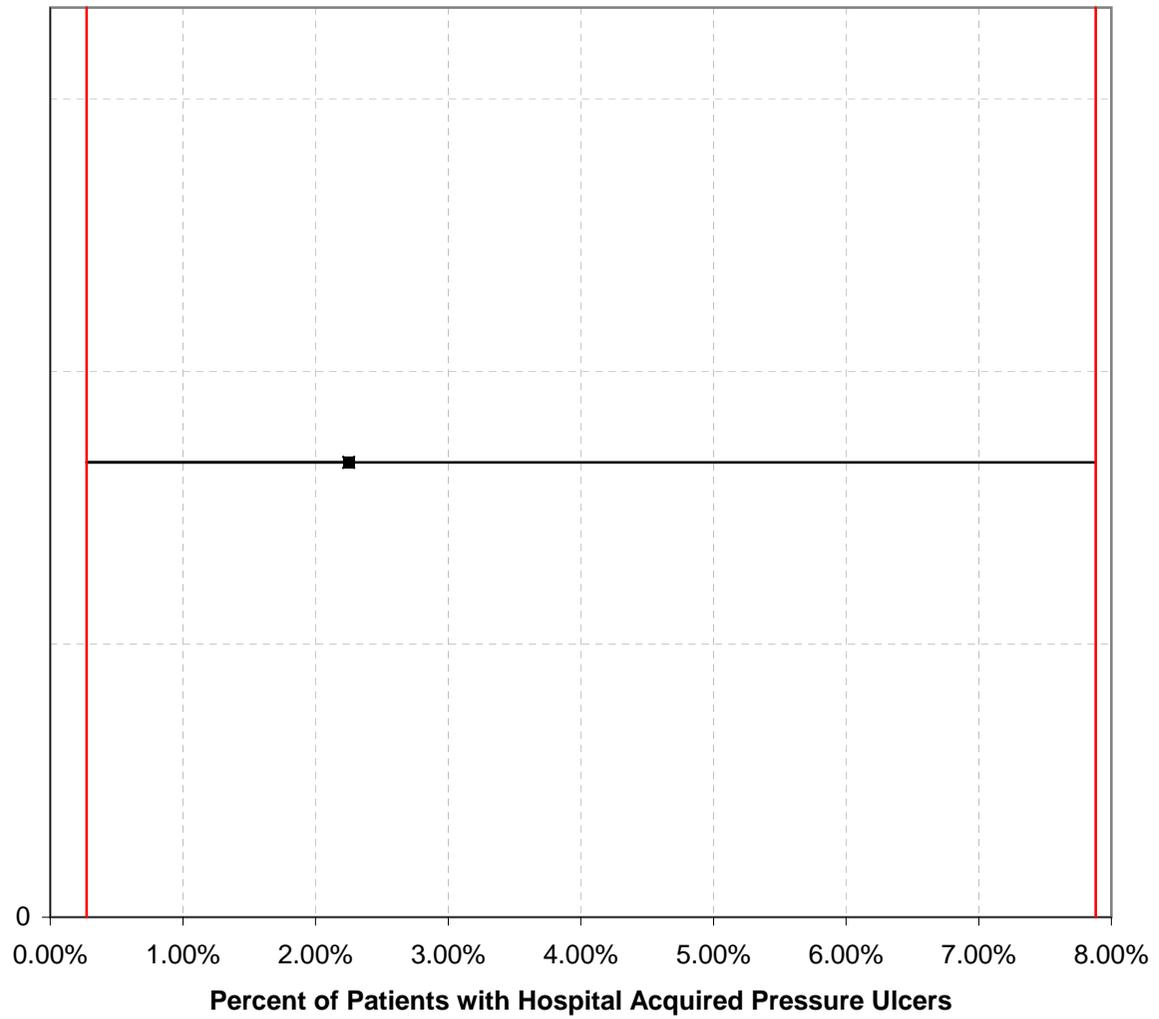
April 2016

Rehabilitation Hospitals, Rehabilitation Unit

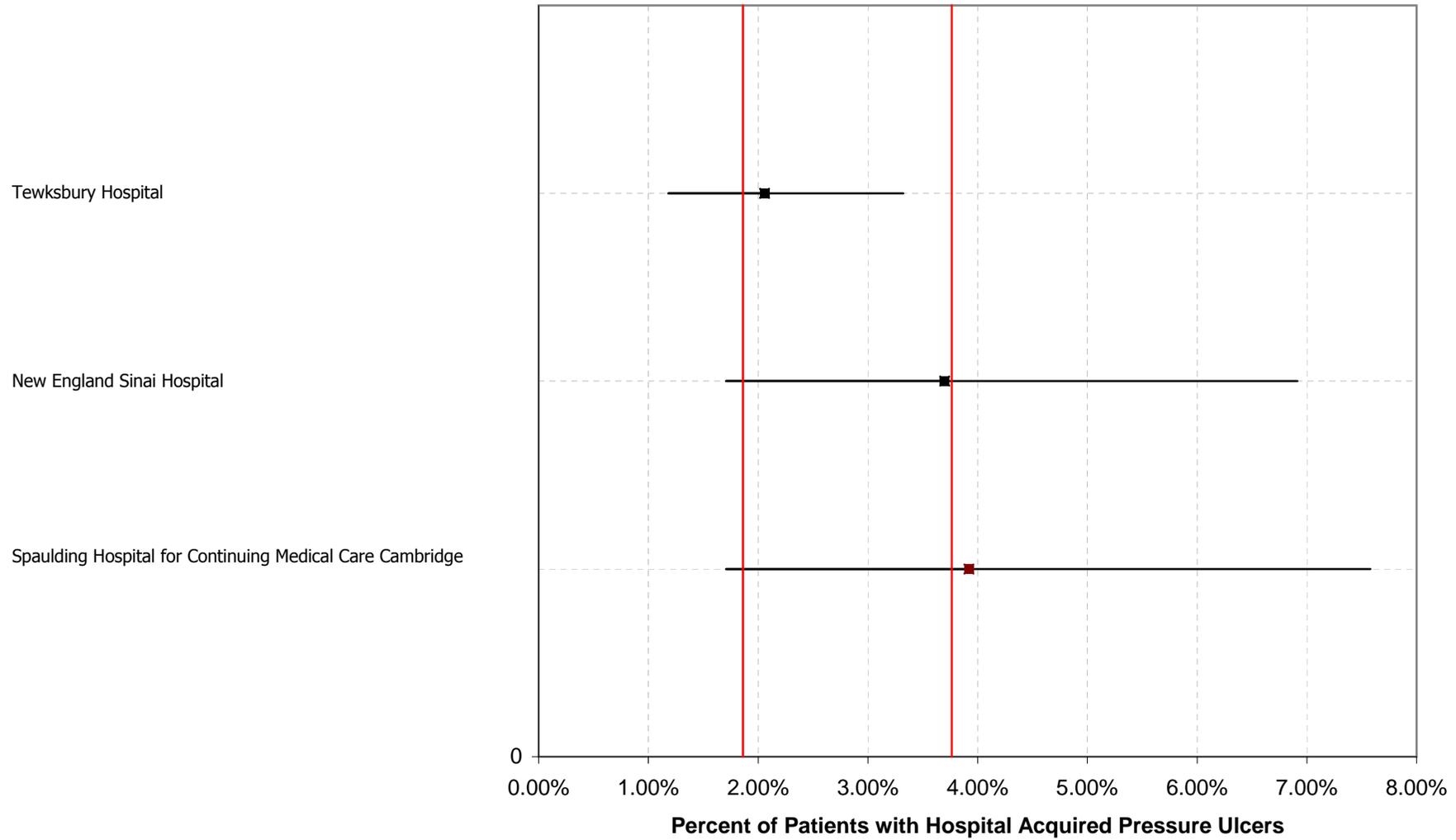


Long-Term Acute Care Hospital, Long-Term Care Unit

Hebrew Rehabilitation Center

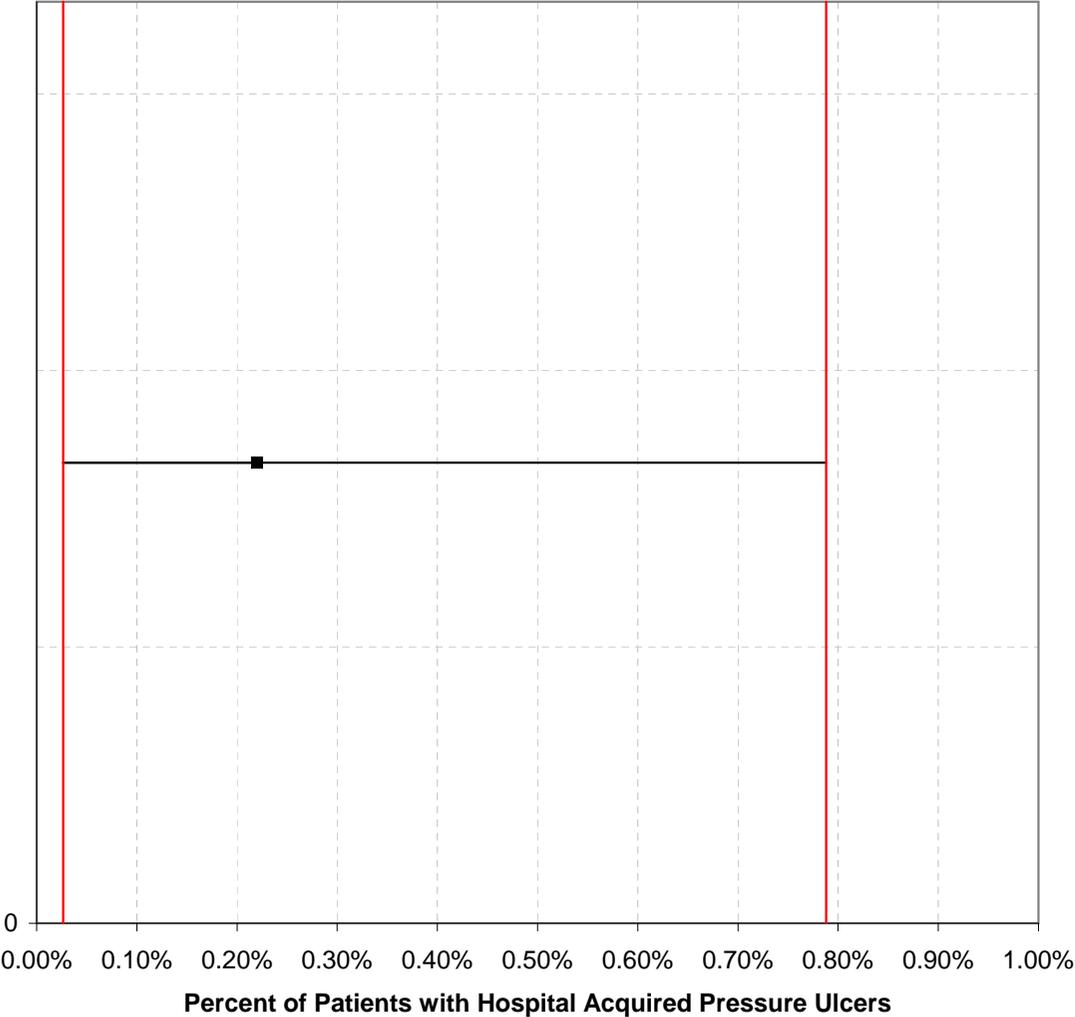


Long-Term Acute Care Hospital, Medical Unit



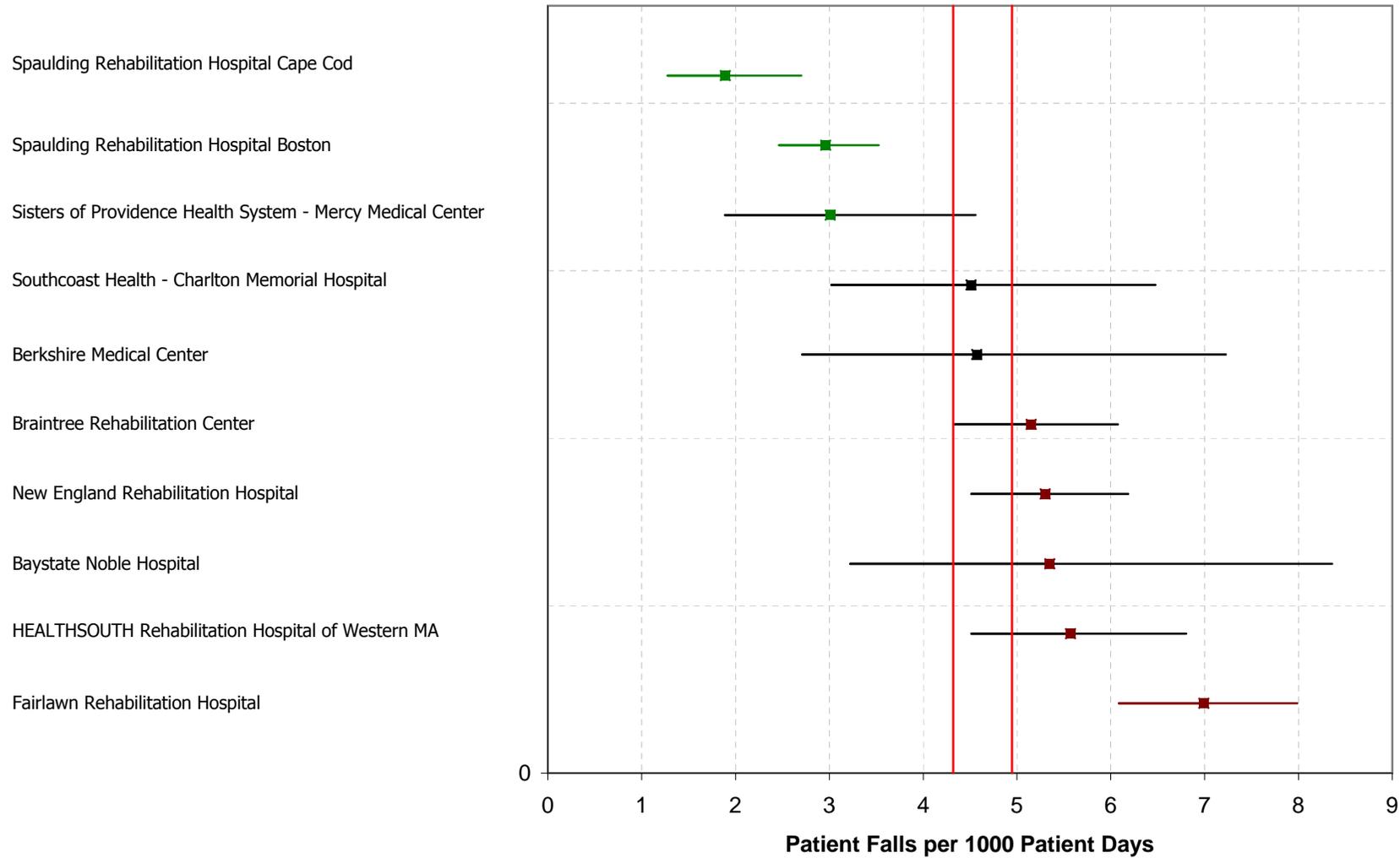
Long-Term Acute Care Hospital, Medical-Surgical

Kindred Hospital Northeast - Stoughton



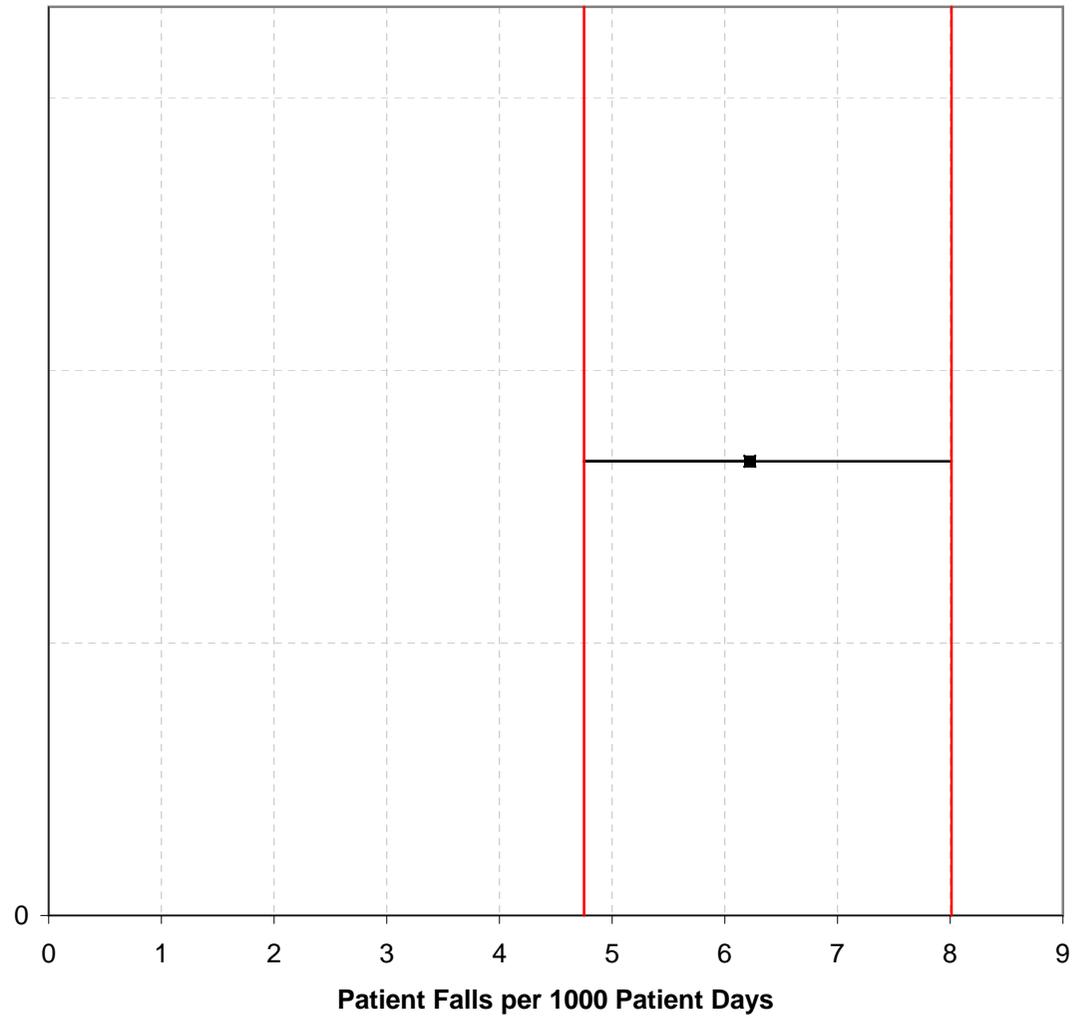
NSC-3 Patient Falls
January – December 2015

Rehabilitation Hospitals, Rehabilitation Unit

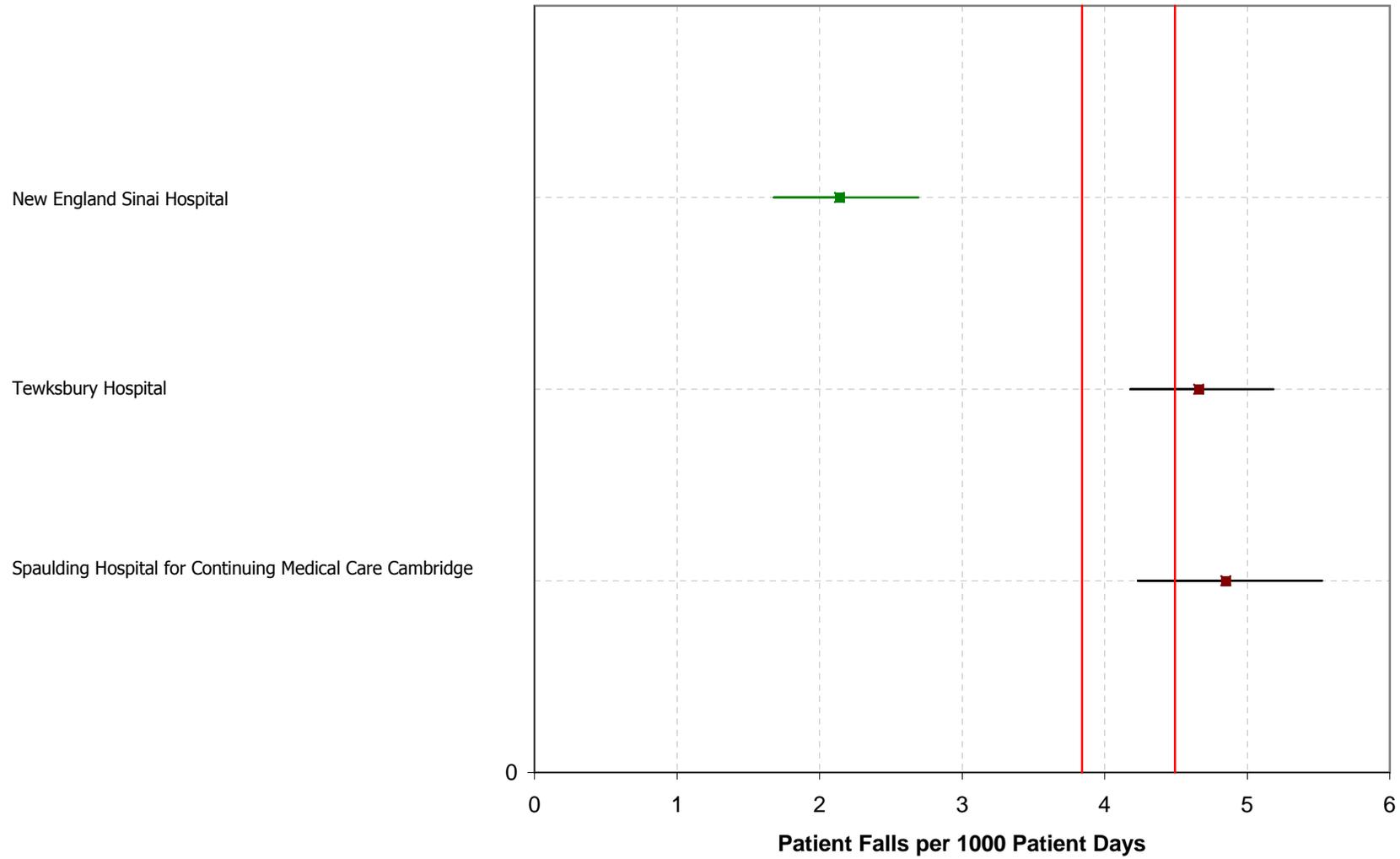


Long-Term Acute Care Hospital, Long-Term Care Unit

Hebrew Rehabilitation Center

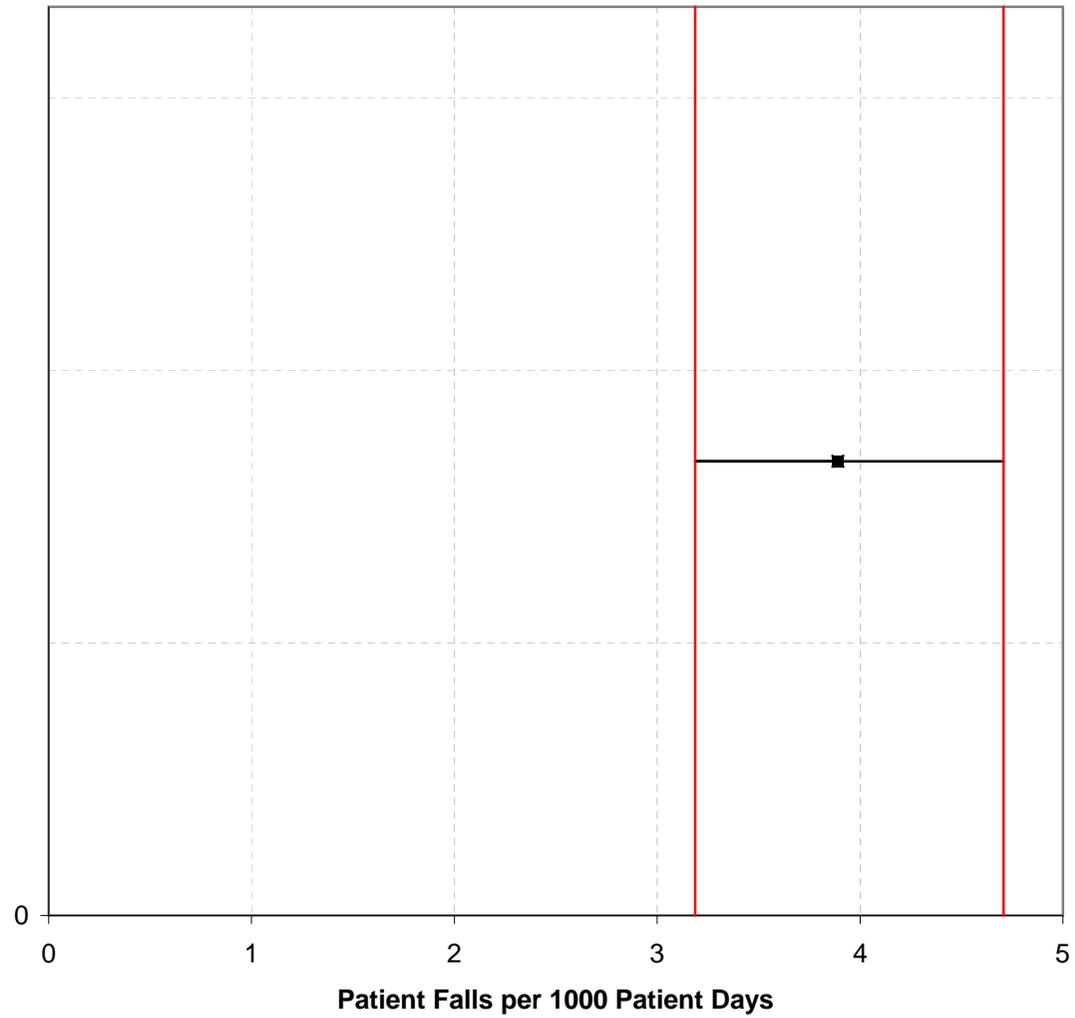


Long-Term Acute Care Hospital, Medical Unit



Long-Term Acute Care Hospital, Medical-Surgical

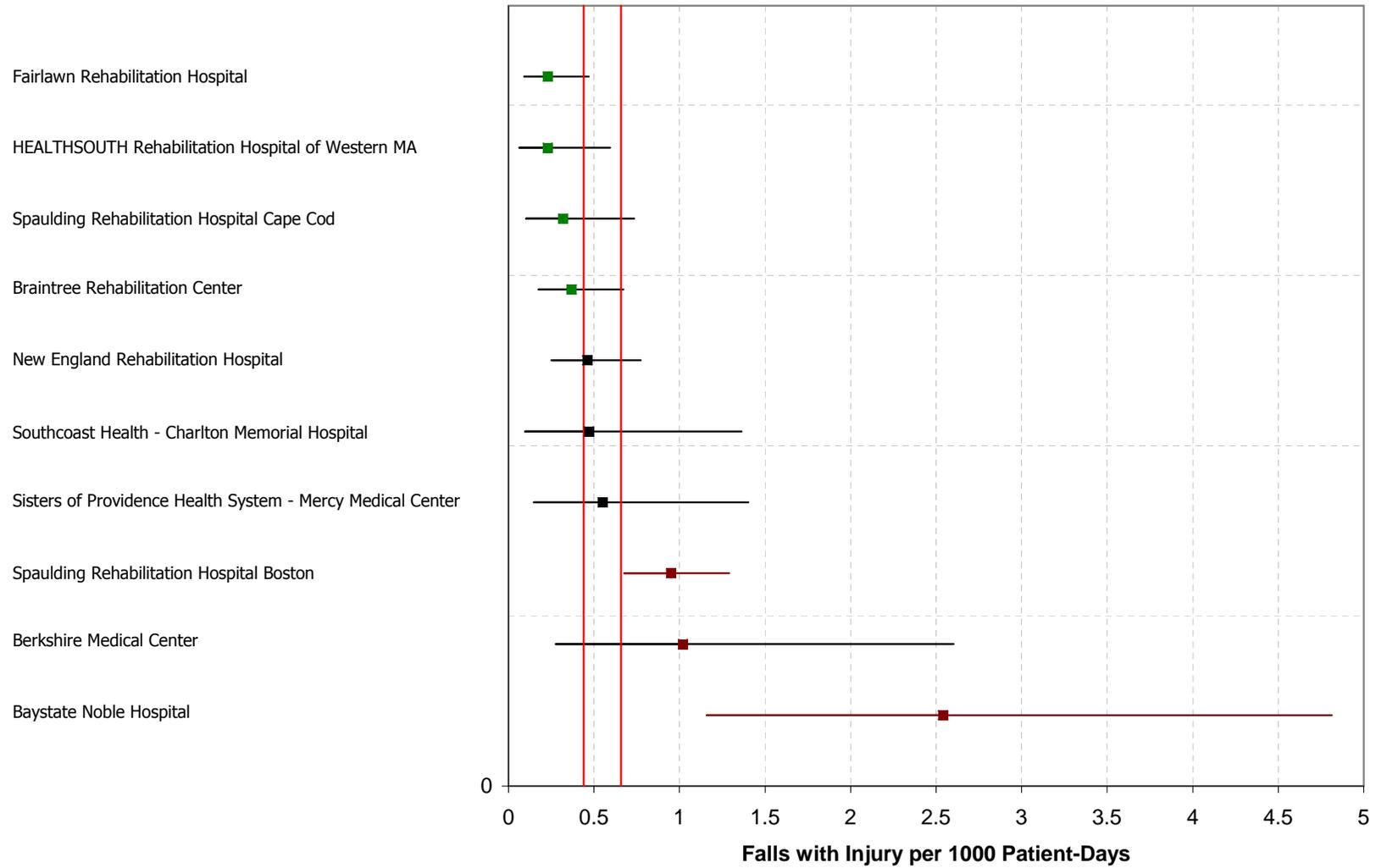
Kindred Hospital Northeast - Stoughton



NSC-4 Falls with Injury

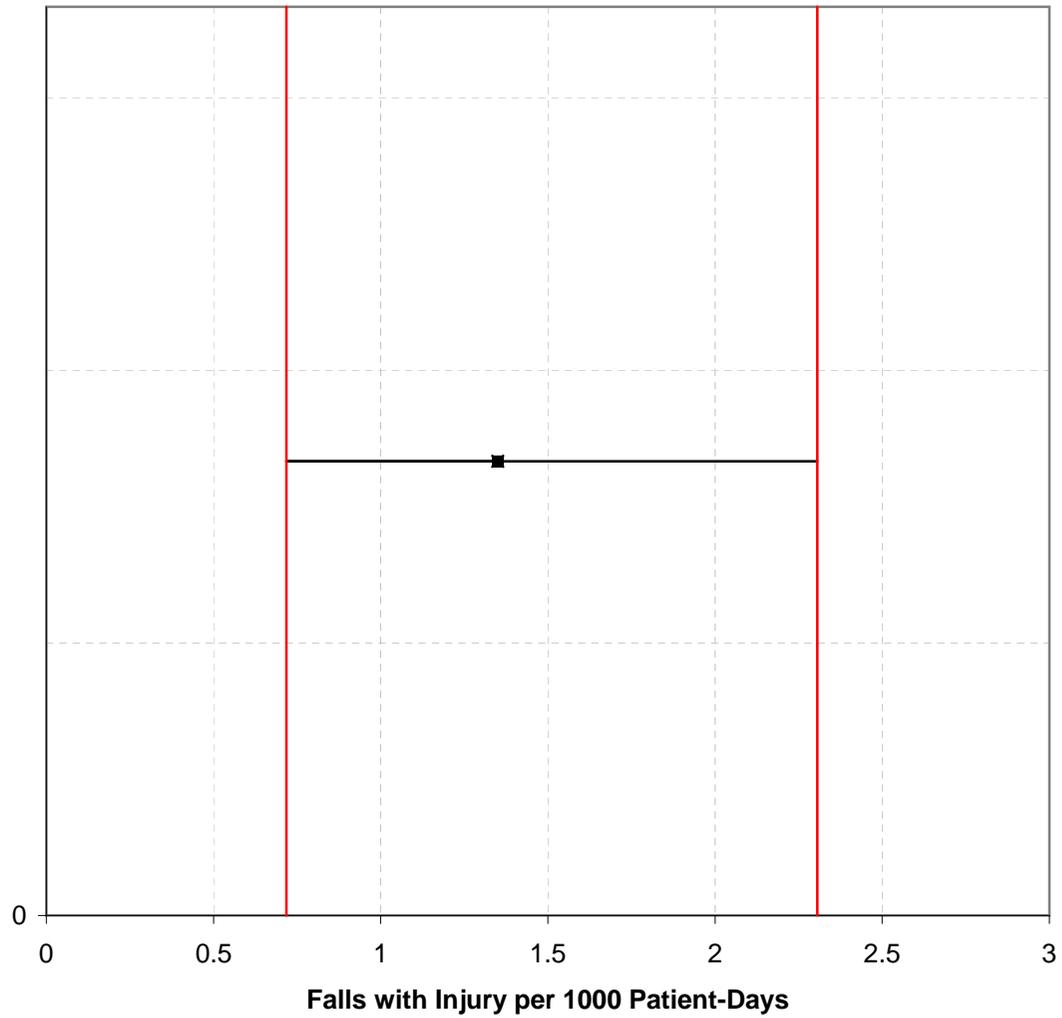
January – December 2015

Rehabilitation Hospitals, Rehabilitation Unit

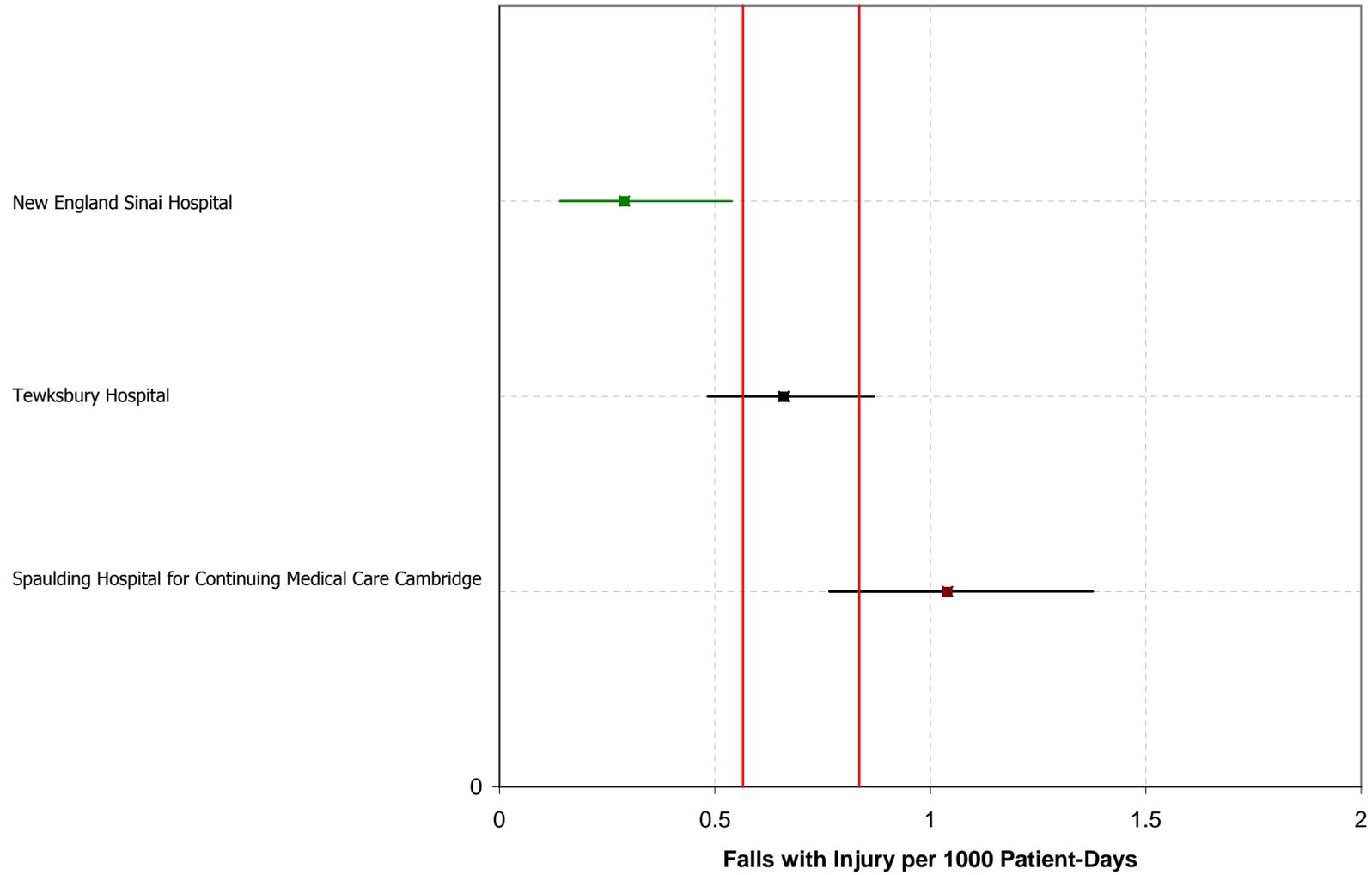


Long-Term Acute Care Hospital, Long-Term Care Unit

Hebrew Rehabilitation Center



Long-Term Acute Care Hospital, Medical Unit



Long-Term Acute Care Hospital, Medical-Surgical Unit

Kindred Hospital Northeast - Stoughton

