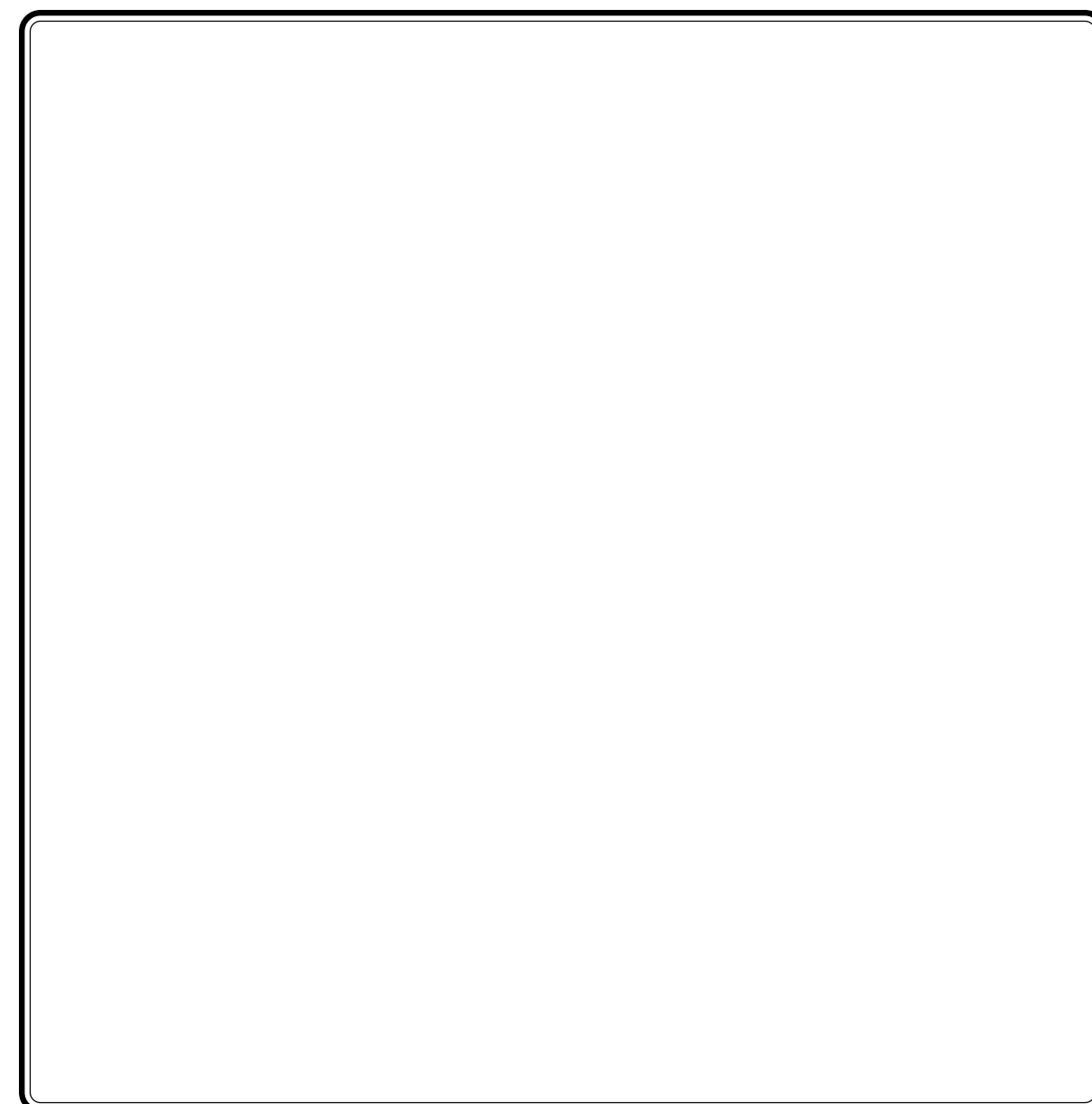


# A QUALITY CONTROL REVIEW OF DISCREPANCY RATES IN RECORDING PATIENT DATA

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## ABSTRACT



### Determination of Discrepancies

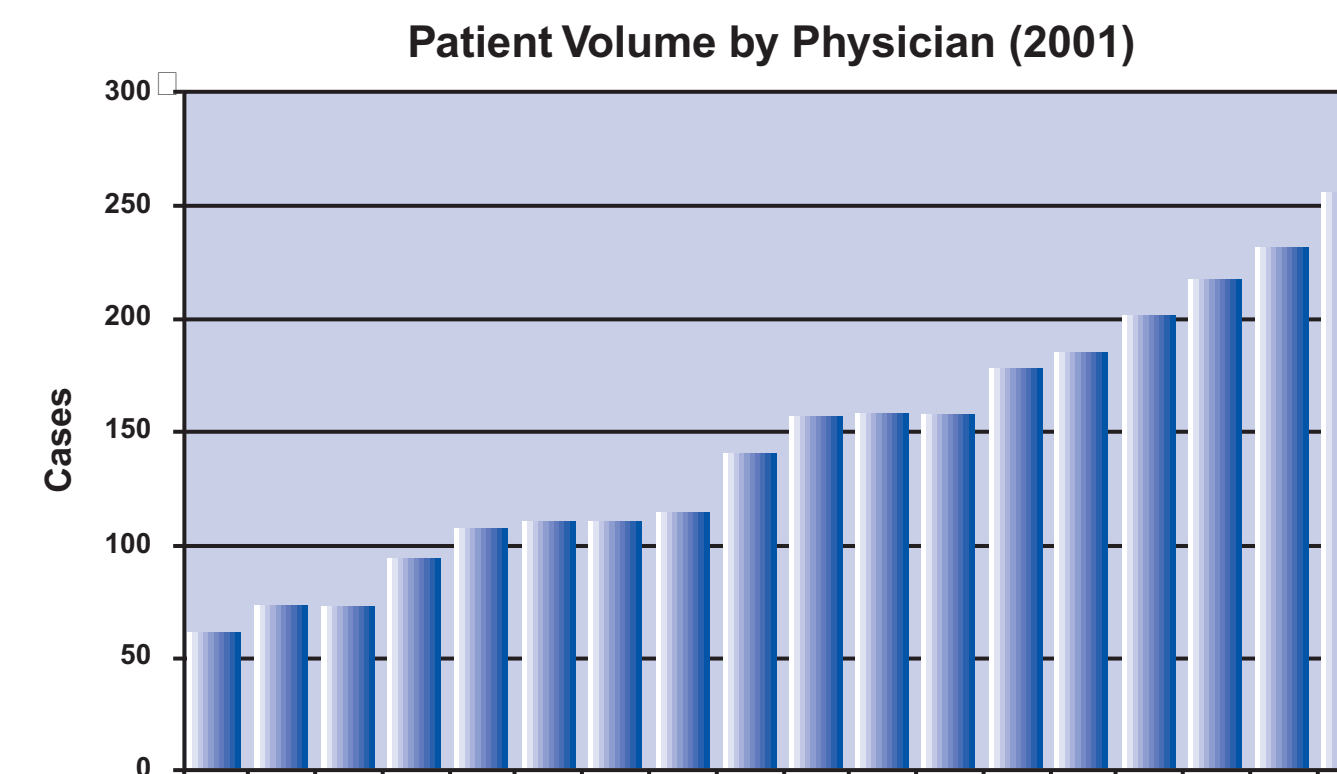
- Specific sources in medical record were established for audit
- Data recorded in the database, but not found in the chart, was not counted as a discrepancy
- Results were calculated as a percent discrepancy rate for each data field
- Some numeric variables require various techniques for measurement leading to slightly different values – an acceptable window on those fields was determined
- Values outside this limit were deemed discrepancies
- The following values were considered within the acceptable variation:

Height (±1 inch)  
Weight (± 5 kg)  
Ejection Fraction (± 10%)  
Number of Hours Ventilated Postop (± 1 hour)

- Other numeric variables were scored as a discrepancy if there was any difference between the reported value and the chart.
- |                       |                            |                                  |                           |
|-----------------------|----------------------------|----------------------------------|---------------------------|
| Date of Birth & Age   | Social Security Number     | Telephone Number                 | Zip Code                  |
| Date of Admission     | Length of Stays            | Date of Surgery                  | Date of Discharge         |
| Last Creatinine Level | # Prior Cardiac Op w/o CPB | # Diseased Coronary Vessels      | # Distal Anast (w/Artery) |
| Distal Anast (w/Vein) | # Distal Anastomoses       | Radial Artery Distal Anastomoses | Ischemic Times            |
| Implant Size          | Cross Clamp Time           | Perfusion Time                   | Date of Death             |
| ICU – In date         | ICU – Out date             |                                  |                           |

- Categorical variables (yes/no) were considered a discrepancy if they were reported differently from the information in the chart.

Graph 2



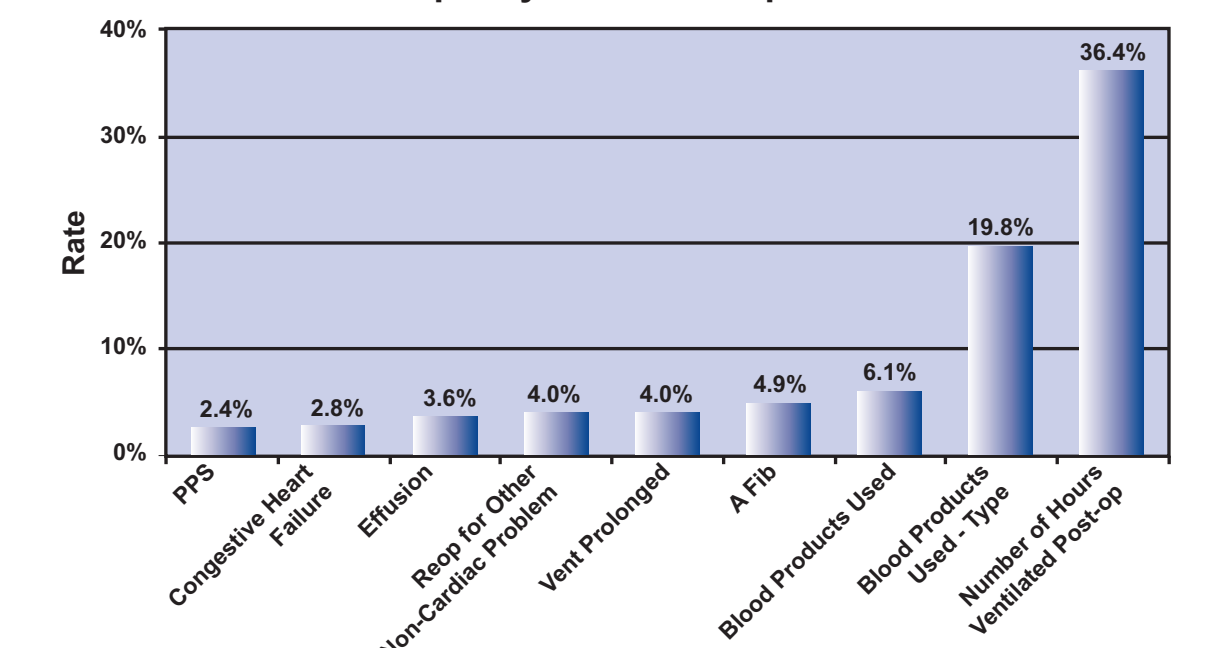
### Post-operative Variables

- Post-operative complications generally had a discrepancy rate < 5%
- Post-operative ventilation time had largest discrepancy rate (36%)
- Selected post-operative variables with a discrepancy rate between 0 and 2%

### Discrepancy Rate

Discrepancy Rate	Variable Analyzed
0 %	Anticoagulant Complications
0.4 %	Reop for Bleeding Pulmonary Complications Cardiogenic Shock
0.8 %	Perioperative MI V Tach
1.2 %	Multi System Failure
1.6 %	Complications Cardiac Arrest
2.0 %	Pneumonia

Discrepancy Rates - Complications

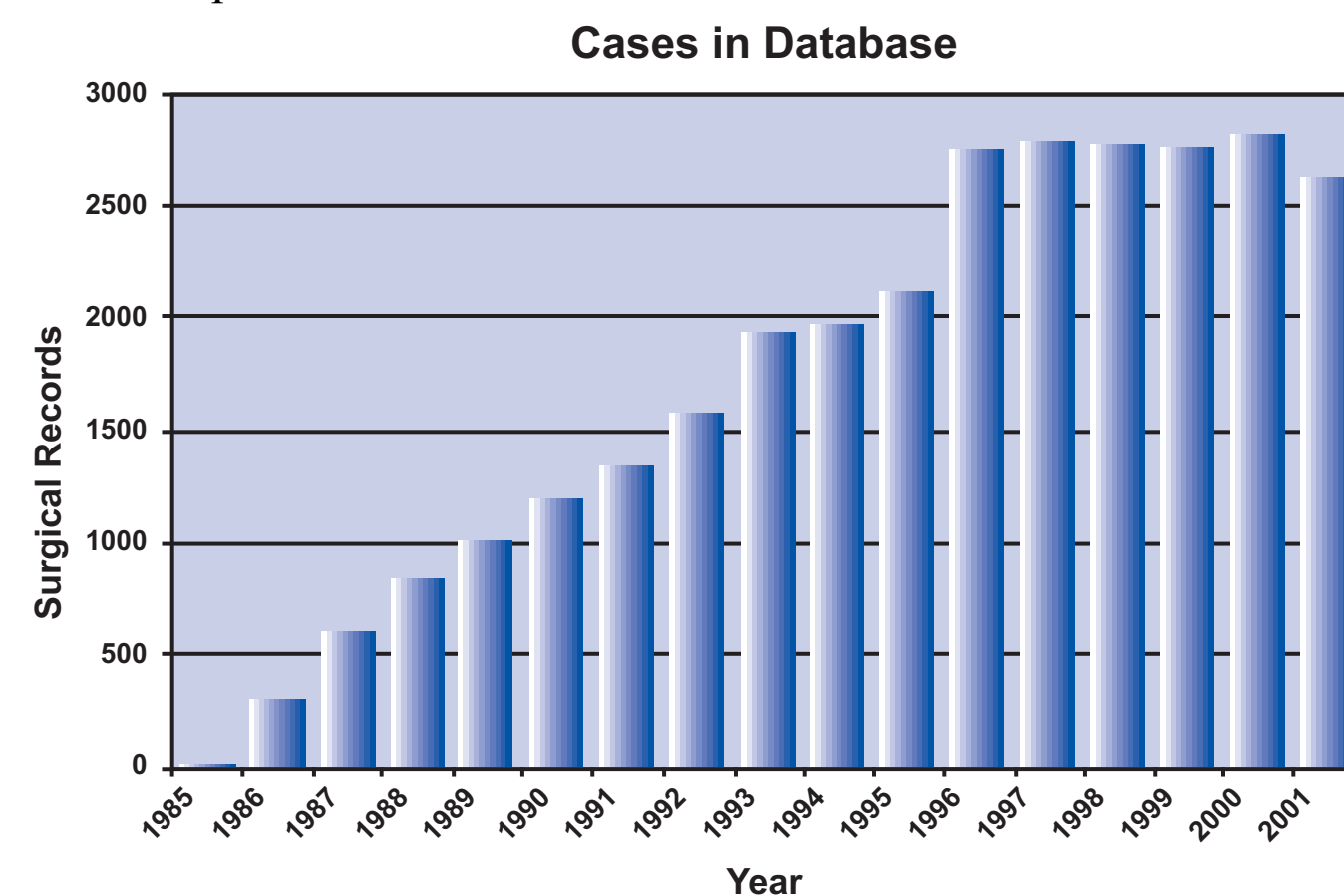


Leg Infection	Stroke-Permanent
Pulmonary Embolism	Heart Block
PPM	Mortality
Stern Deep Infection	Continuous Coma
Tamponade	GI Comp
Confusion	
Septicemia	Urinary Tract Infection
Pulmonary Edema	
Renal Failure	

## BACKGROUND

- The development of evidence-based medical practices, increasingly demanded by physicians, patient groups, hospitals and insurers, requires precise analysis of outcomes based on accurately collected data.
- Practice-wide data collection since 1986 featuring
  - 22 surgeons, 18 facilities
  - diverse practice patterns and data collection methods
  - more than 30,000 records in computerized database (Graph 1)
  - customized, certified Society of Thoracic Surgeons (STS) data collection tool
  - annual national harvest

Graph 1



## OBJECTIVE

- To determine the accuracy (discrepancy rate) of the data being collected and entered into a patient database.

## METHODS

### Selection of Records to Audit

- 10% of each surgeon's submitted databases were randomly selected for audit in order to insure representative sampling
- Volumes sampled varied significantly among surgeons (60 to 255 in 2001 – See Graph 2)
- Submitted data was compared to the primary medical record with discrepancies noted for approximately 300 variables

## RESULTS

### Pre-operative Risk Factors

- Preoperative factors used in the risk algorithm had discrepancy rates of less than 10% except for
  - New York Heart Association class, NYHA (28.3%)
  - surgical urgency status (13.4%)
- Graph indicates the values for all variables with a rate > 5%

Discrepancy Rates - Risk Factors

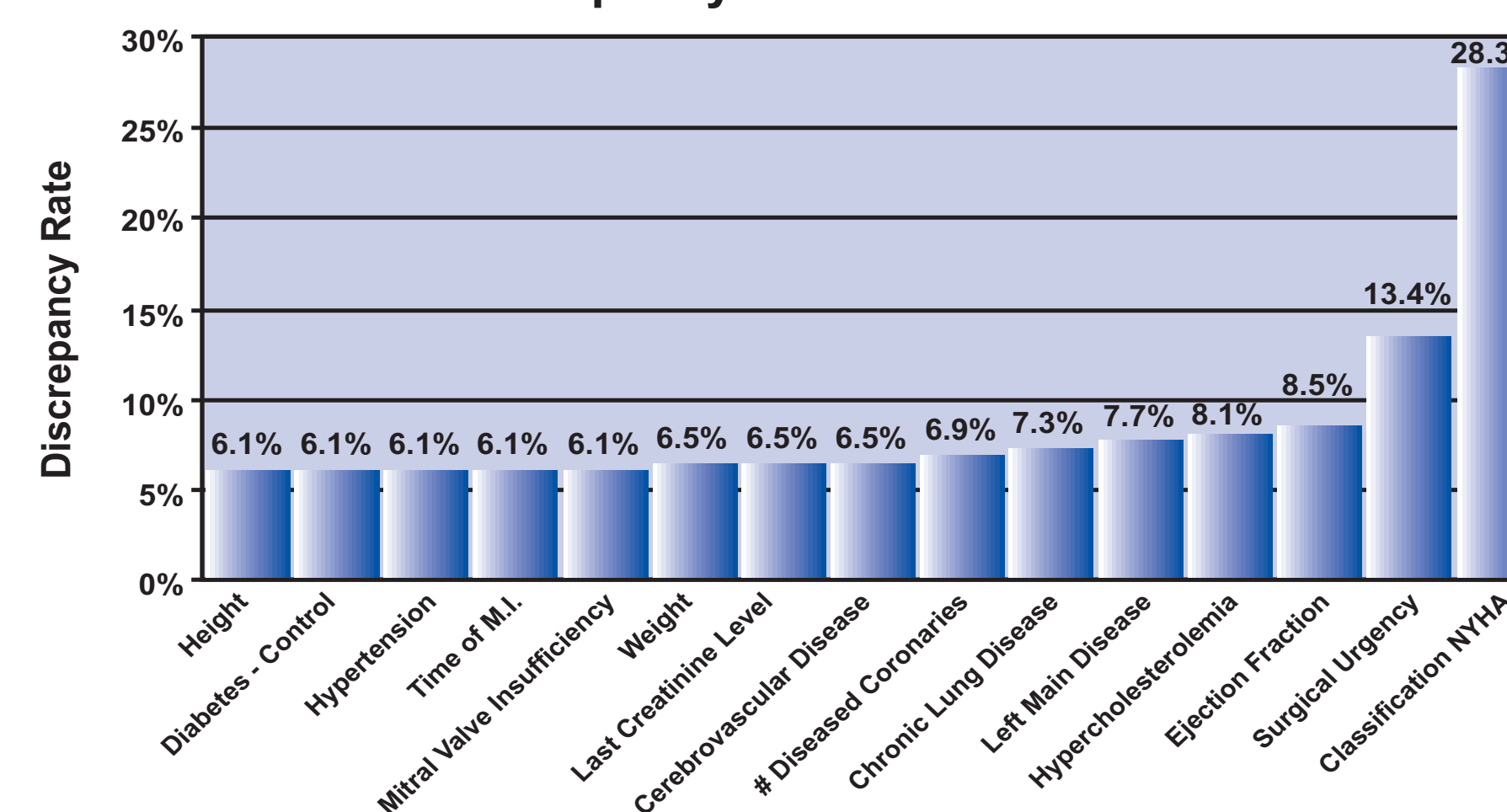






Table: Selected risk factors with a discrepancy rate below 5%

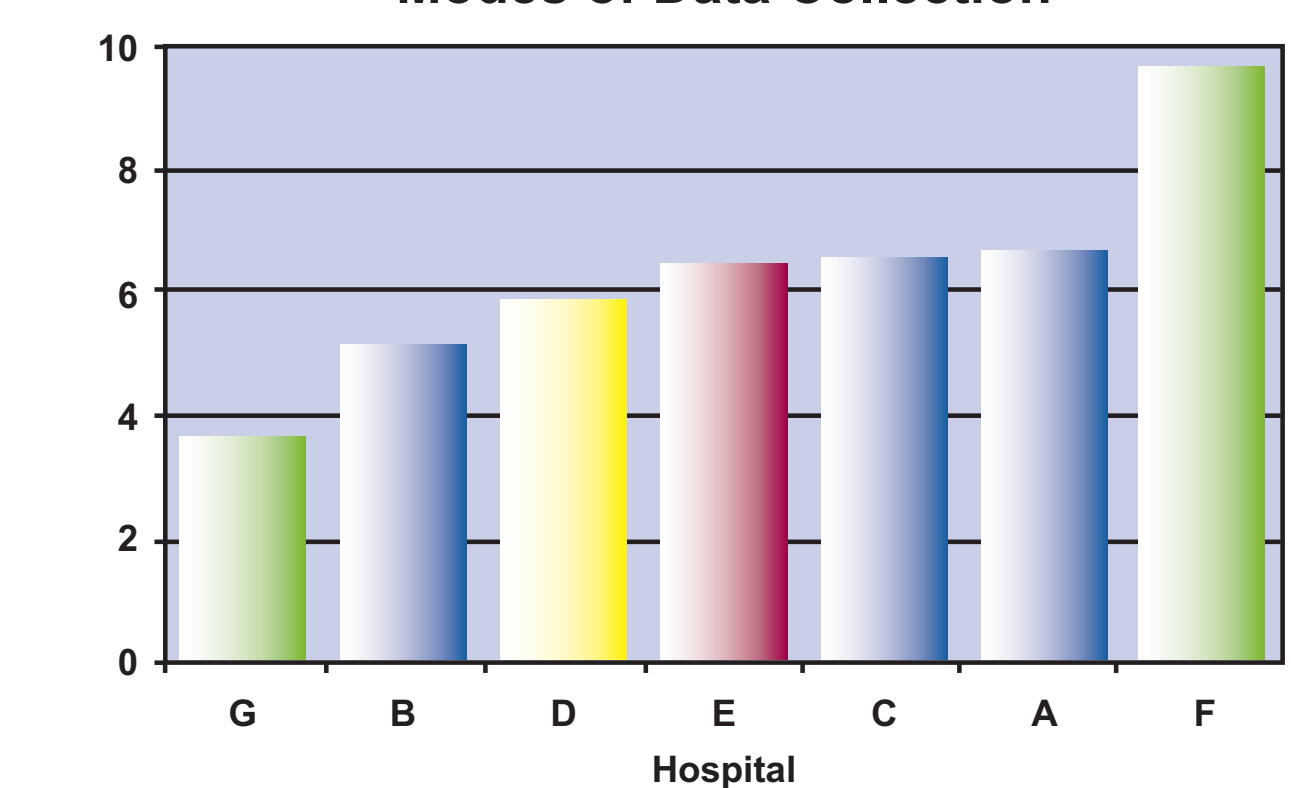
Resuscitation	0.00%	Race	0.40%	Cardiogenic Shock	0.80%
Prior Cardiac Operations	1.20%	Inotropic Agents	1.20%	Gender	1.60%
Diabetes	1.60%	Date of Birth/Age	2.00%	Aortic Valve Stenosis	2.00%
Prior PTCA	2.40%	Cerebrovascular Accident	3.20%	Myocardial Infarction	3.20%
Peripheral Vascular Disease	4.50%	Renal Failure	4.90%	Congestive Heart Failure	4.90%

- Subsetting the data by facility, overall discrepancy rates varied from 3.7 discrepancies per data record to nearly 10.
- No correlation between collection method and discrepancy rate.

### Mode of Data Collection Used

	Method 1: Physician's Assistant (PA), RN
	Method 2: RN
	Method 3: NP, Clinical Nurse Specialist
	Method 4: Perfusionist, Nurse Practitioner (NP), PA

Modes of Data Collection



## CONCLUSION

The accurate recording of patient data is essential for the analysis of treatment efficacy and outcomes. The large discrepancy rate in recording certain fields used in the predicted risk algorithm is of major concern, leading to questions about accuracy of the calculated values which are commonly used in analysis. Conclusions about outcomes also may be impacted by inaccurate data.

Our observations suggest there are 3 main sources of 'error' in recording the data: carelessness, unclear data definitions, and differences in the source data. There was no evidence that any of the varied methods of data collection affected the discrepancy rate. Improving the quality and accuracy of data collected is a requirement for all centers involved in research. It will be increasingly important for all entities to collect accurate data.