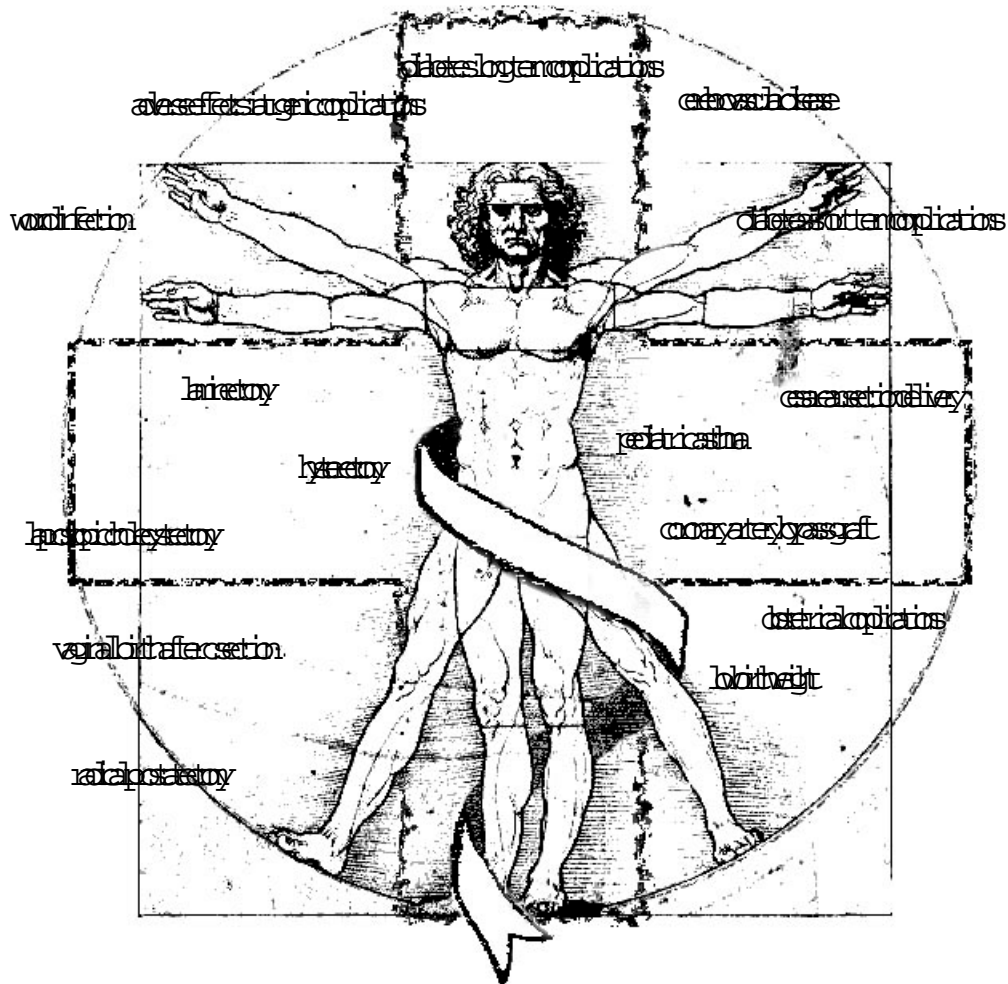


Selected Quality Indicators of Hospital Patient Care in Utah



QI2 1996

HCUP-3 Quality Indicators for Utah Hospitals



Health Data
Committee

Office of Health Data Analysis
Utah Department of Health
Box 142854
Salt Lake City, Utah 84114-2854
Phone (801) 538-7048
Fax (801) 538-9916
URL: <http://hlunix.hl.state.ut.us/hda>

Acknowledgements

This report was prepared by the Office of Health Data Analysis under the direction of the Utah Health Data Committee and its advisory group. However, most of the textual descriptions relating to the HCUP Quality Indicators were taken from the AHCPH HCUP-3 Report.

Rod Betit Executive Director
Richard Melton Director
Scott Williams Deputy Director

Lee K. Brinton	Small Business
Penny S. Brooke	Nursing
Eugene W. Chapman	Business
Orrin T. Colby Jr.	Business
Clyde Ford	Private Physician
Norma Hansen	Consumer
Wen H. Kuo	Public Interest
J. Brett Lazar	Public Health
Sandra L. Peck	Consumer
H. Gary Pehrson	Hospital
Ken R. Smith	Public Health
Michael J. Stapley	Third Party Payer

Denise Love*	Director
Byron Clawson	Information Analyst
Ryley Fogg	Layout/Design
Irina Grabovsky	Information Analyst
John Kane	Information Analyst
Kevin Lertwachara	Research Analyst
Zhiwei Liu	Programmer Analyst
Luis Paita*	Research Consultant
Mary Steck	Executive Secretary

Office of Health Data Analysis

For questions or comments, contact:
Office of Health Data Analysis
Utah Department of Health
288 N 1460 W SLC, UT 84114-2854

Voice: (801) 538-6386
Fax: (801) 538-9916
Inet: hlhda.lpaita@state.ut.us

* Persons to contact about this report

Agency for Healthcare Policy and Research

We are grateful to the Agency for Health Care Policy and Research for developing and making available these standardized quality indicators.

HCUP-3 Quality Indicators Working Group:

Judy K. Ball, Ph.D.
Anne Elixhauser, Ph.D.
Meg Johantgen, Ph.D., R.N.
D. Robert Harris, Ph.D.
Marsha Goldfarb, Ph.D.

For information about the HCUP-3 project and databases, contact:

Agency for Health Care Policy and Research
Healthcare Cost and Utilization Project
2101 East Jefferson Street, Suite 500
Rockville, MD 20852

Voice: (301) 594-1410
Fax: (301) 594-2314
Inet: hcupnis@cghsir.ahcpr.gov

Background	i
About this Report	iii
The Utah Hospital Discharge Database	iv
The HCUP Project	v
Obstetrical Complications	2
Wound Infection	4
Adverse Effects/Iatrogenic Complications	6
Cesarean Section Delivery	8
Vaginal Birth After C-Section	10
Laminectomy and/or Spinal Fusion	12
Hysterectomy	14
Radical Prostatectomy	16
Laparoscopic Cholecystectomy	18
Coronary Artery Bypass Graft	20
Low Birthweight	22
Pediatric Asthma	24
Diabetes Long-term Complications	26
Cerebrovascular Disease	28
Diabetes Short-term Complications	30
Appendix	33

Measuring and improving the quality of care provided by Utah's hospitals is not a simple matter. It takes many individuals and organizations working together to understand the science of measurement and to design interventions that improve quality. Quality improvement occurs slowly, over time, and everyone from health professionals, to government, to the patient has a role.

- o **Hospitals** need to know how they compare to other hospital for specific measures of quality--a necessary first step to evaluating internal processes of care and seeking ways to improve these processes.
- o **Physicians** make clinical decisions everyday to improve the health of individual patients they treat. But what is the cumulative effect of these individual decisions on the health of Utahns? Unless measured and compared, the physician may not know how his clinical practice is the same or different from other doctors treating similar conditions and patients.
- o **Purchasers and consumers** of health care may not know that hospitals are not all performing exactly the same in all measures of quality. Simply understanding that difference do exist, that these differences are caused by many different factors, including their own overall health, and that decisions about which treatment will work best for them requires more information than they may have had in the past.
- o **Government** plays a role by leveling the playing field between competing hospitals, collecting uniform data, validating that the data are not biased, and making the data available to all of the appropriate parties.

All users need to know that no data are perfect, while attempts are made to control for differences between patients, these attempts are not perfect and not all differences can be explained. The reports provide just one piece of information and should not be used exclusively in the decision making process.

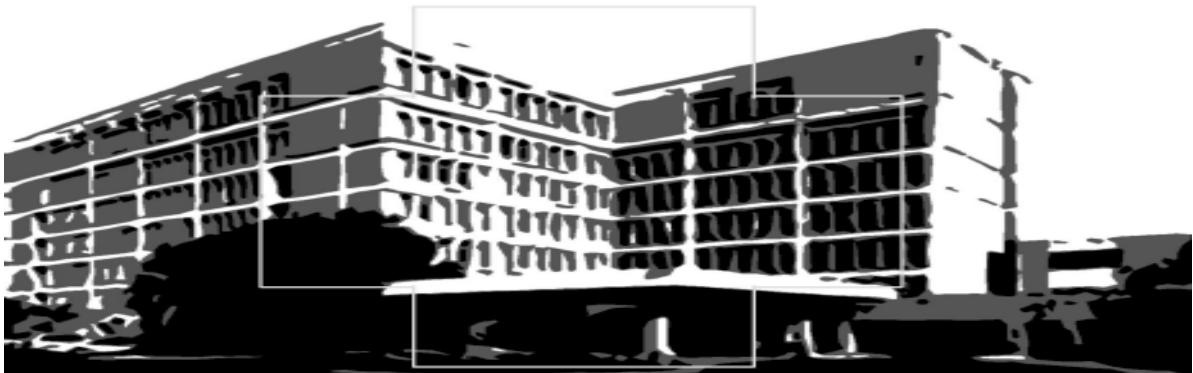
About this Report....

The purpose of this report is to provide updated measures of indicators of quality of care in Utah's hospitals in 1996. These quality indicators were developed by the Agency for Health Care Policy and Research (AHCPR) through the Healthcare Cost and Utilization Project (HCUP-3). This report is a follow-up to an earlier report (QI-1, 1992-1995).

This report includes the following information for each quality indicator (QI):

1. A summary of the measurement method. This describes the population at risk (the denominator of the calculated rate) and the outcome or measure of interest (the numerator).
2. Annual trend of QIs (Quality Indicators) for Utah from 1992 to 1996.
3. Quality indicators by hospital.
4. Quality indicators for 1996 according to characteristics of hospital (case-mix, size, location, ownership) and patient (age, sex, residence).

The Utah quality indicators were calculated from the Utah Hospital Discharge Database, 1992-1996. "Discharge data" means the consolidation of complete billing, medical, and personal information describing a patient, the services received, and charges billed for each inpatient hospital stay.



Chapter 33a, Title 26, Utah Code Annotated established the Utah Health Data Committee. The committee is composed of twelve members appointed by the Governor, representing various health care stakeholders, including two slots added by the legislature in 1995 for public health representatives. In accordance with the act, the committee's purpose is *"to direct a statewide effort to collect, analyze, and distribute health care data to facilitate the promotion and accessibility of quality and cost-effective health care and also to facilitate interaction among those with concern for health care issues"*.

The committee worked with numerous organizations and individuals to develop the Utah Health Data Plan, which defines the implementation of a statewide health data reporting system. The committee identified inpatient hospital discharge data as its priority.

Administrative Rule R428 became effective in December, 1991, and mandates all Utah licensed hospitals, both general acute care and specialty, to report information on inpatient discharges. Fifty-five Utah hospitals have submitted data since 1992, including nine psychiatric facilities, seven specialty hospitals, and the Veterans Administration Medical Center. Shriners Hospital, a charity hospital, is exempt from reporting requirements.

All hospitals report "discharge data" for each inpatient served. "Discharge data" means the consolidation of complete billing, medical, and personal information describing a patient, the services received, and charges billed for each

inpatient hospital stay.

Discharge data records are being submitted to the office of Health Data Analysis quarterly. The data elements are based on discharges occurring in a calendar quarter.

If a patient has a bill generated during a quarter, but has not yet been discharged by the end of the quarter,

data for that stay is not included in the quarter's data.



About Quality Indicators...

The HCUP Quality Indicators (QIs) were developed specifically to meet the short-term needs for information on health care quality, using standardized, user-friendly methods and existing sources of data. Records of inpatient hospital stays are the most readily available sources of health care data. The QI methods were designed to capitalize on the availability of such data to produce information about: **outcomes** of inpatient care, especially surgical procedures; **utilization** of inpatient services, which reflect physical practice patterns and physician-patient decision-making; and **access** to care in the community, through ambulatory care-sensitive conditions. The QI measures presented in this report were selected based on (1) the volume of the population at risk and the associated outcome in 1996, and (2) the relative magnitude of Utah's rate compared to other states as observed in an earlier report (QI-1).

- o Obstetrical Complications
- o Wound Infection
- o Adverse Effects/Iatrogenic Complications
- o Cesarean Section Delivery
- o Vaginal Birth after C-Section
- o Laminectomy and/or Spinal Fusion
- o Transurethral Prostatectomy
- o Radical Prostatectomy
- o Laparoscopic Cholecystectomy
- o Coronary Artery Bypass Graft
- o Low Birthweight
- o Pediatric Asthma
- o Diabetes Long-term Complications

Issues to keep in mind:

The information in this report was generated using identical methods applied to the Utah Hospital Discharge Data and HCUP-3 uniform data from the twelve states that participated in HCUP.

Most QIs are expressed as simple rates, where the numerators and denominators are restricted to reduce heterogeneity.

Other QIs - complications among surgical patients - are expressed as standardized rates, because heterogeneous populations were unavoidable. Standardization accounts for the heterogeneity of case-mix so that the variation among standardized rates reflects differences in outcomes, not differences in case-mix.

Year 2000 Targets are noted as external benchmarks when they were available and defined consistently with the QIs.

Finally, keep in mind:

There may be multiple explanations for variations observed. For example, variations may result from factors such as differential coding practices. An investigation of sources of variation for a particular QI should begin by exploring potential differences in coding.

The HCUP-3 QIs were designed to rely on data produced in the normal course of delivery of health care services. Although data on inpatient hospital services are used, the evaluation of quality is not directed solely at inpatient care provided by the hospital. Instead, the hospitals' inpatient data provide a window through which hospital care, physical practice patterns, physical-patient decision making, and availability of care in the community can be observed. Information derived from readily available data can then be used to guide, even target, further investigations.

Selected Quality Indicators

Obstetrical Complications

Obstetrical complications may contribute to maternal, fetal, and neonatal morbidity and mortality. Such complications are largely preventable through routine prenatal and appropriate obstetrical care. Year 2000 target: reduce obstetrical complications to no more than 15 complications per 100 deliveries. In 1996, almost all Utah hospitals already reported the obstetrical complication rate lower than the Healthy People 2000 target.

Outcome:

Diagnosis or procedure of complication of obstetrical care (fourth degree laceration; hemorrhage or transfusions; pulmonary, cardiac, central nervous system, or anesthesia complications; obstetric shock; renal failure; puerperal infection; air embolism; disruption of cesarean or perineal wound; breast abscess; other obstetric complications)

Population at risk:

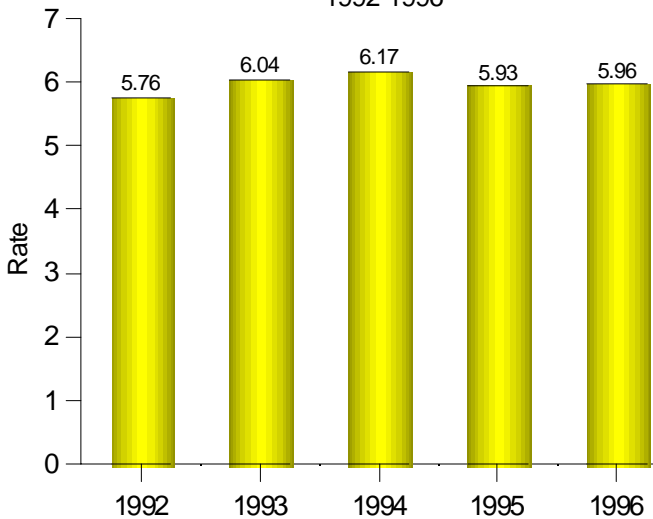
All deliveries (DRGs 370-375)

Rate:

Number of complications per 100 deliveries

2

Trend of Rate in Utah
1992-1996



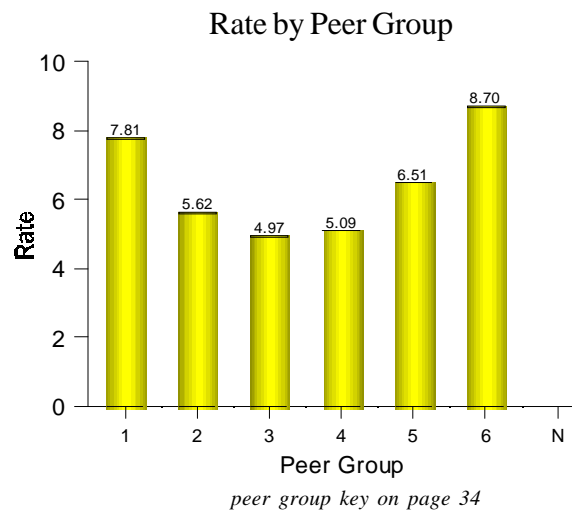
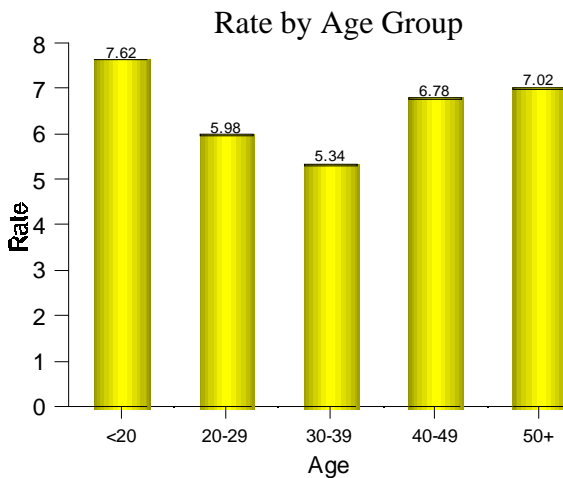
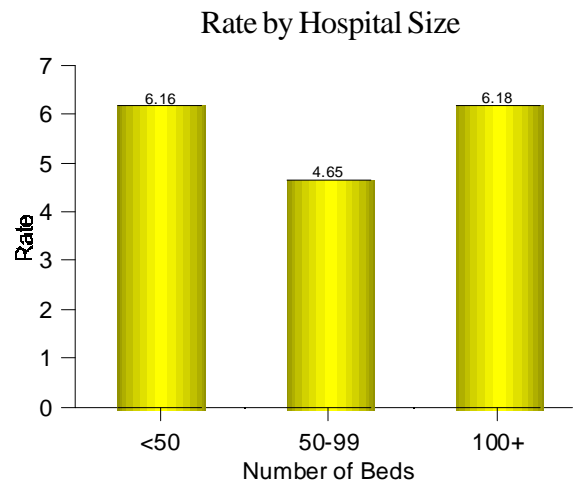
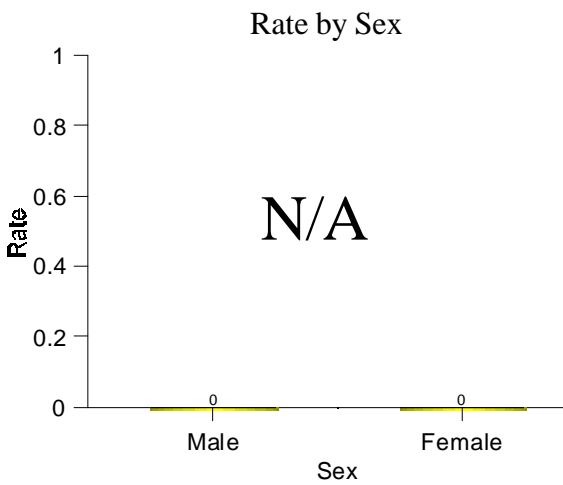
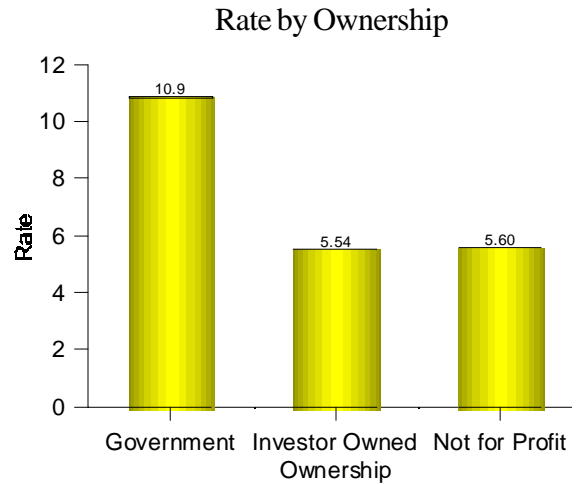
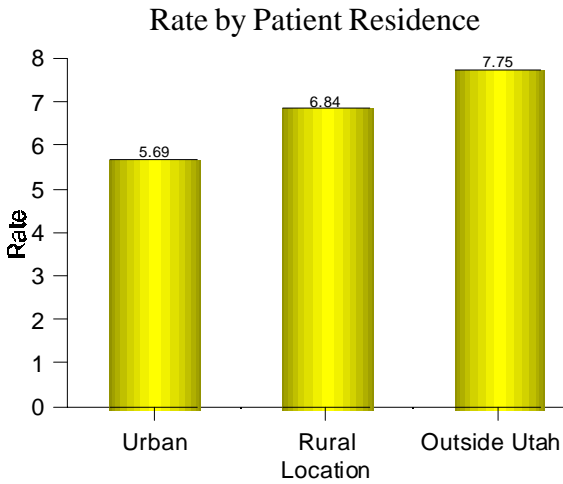
Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
121	1	LDS	3,858	225	5.83
125	1	University of Utah	2,708	288	10.64
138	2	Utah Valley Regional	4,081	143	3.50
124	2	St. Mark's	2,287	117	5.12
141	2	McKay-Dee	2,724	197	7.23
120	2	Salt Lake Regional	1,684	149	8.85
142	3	Ogden Regional	1,864	27	1.45
137	3	Mountain View	1,372	43	3.13
107	3	Lakeview	774	35	4.52
108	3	Davis Hospital	1,964	121	6.16
119	3	Cottonwood	3,122	203	6.50
126	3	Pioneer Valley	761	61	8.02
135	4	Orem Community	741	28	3.78
136	4	American Fork	2,125	82	3.86
118	4	Alta View	1,648	65	3.94
117	4	Jordan Valley	1,213	79	6.51
143	4	PHC**	998	88	8.82
112	5	Valley View	485	13	2.68
134	5	Ashley Valley	259	11	4.25
105	5	Logan Regional	2,151	99	4.60
106	5	Castleview	394	19	4.82
103	5	Brigham City	467	27	5.78
140	5	Dixie Medical Center	1,621	181	11.17
102	6	Milford Valley	22	0	0.00
104	6	Bear River Valley	74	1	1.35
101	6	Beaver Valley	49	1	2.04
129	6	Gunnison Valley	166	8	4.82
111	6	Allen Memorial	59	3	5.09
113	6	Central Valley	84	5	5.95
132	6	Sevier Valley	208	13	6.25
133	6	Tooele Valley	15	1	6.67
115	6	Fillmore Community	41	3	7.32
114	6	Kane County	50	4	8.00
130	6	Sanpete Valley	118	10	8.48
109	6	Uintah Basin	365	39	10.69
110	6	Garfield Memorial	37	4	10.81
116	6	Delta Community	101	12	11.88
128	6	San Juan	54	8	14.82
139	6	Wasatch County	109	23	21.10

*peer group key on page 34 ** Closed 6-16-97

Obstetrical Complications

1996 Rates of Occurrence 3



Wound Infection

Surgical and traumatic wounds are often contaminated with bacteria; however, strict surgical aseptic technique can minimize the incidence of wound infections. The Utah rate has decreased since 1993 from 0.281 to 0.202.

Outcome:

Secondary diagnosis of post-operative or post-traumatic wound infection

Population at risk:

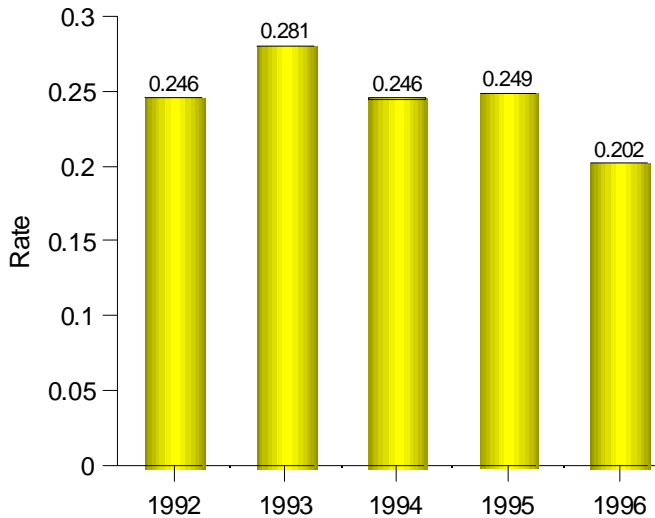
All discharges

Rate:

Number of complications per 100 discharges

4

Trend of Rate in Utah
1992-1996

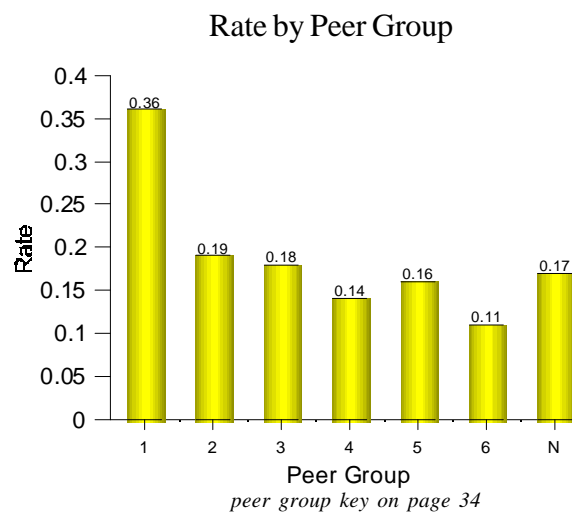
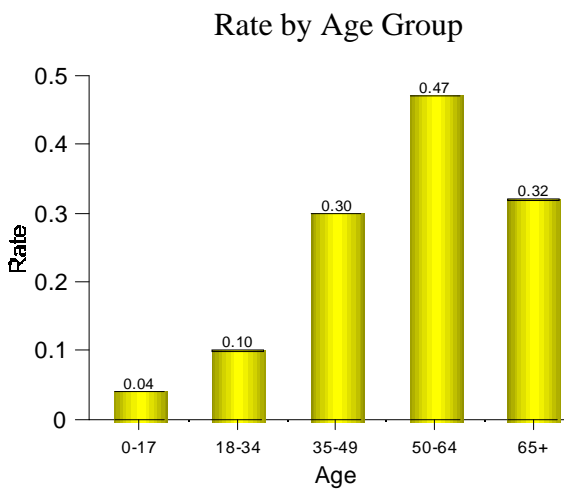
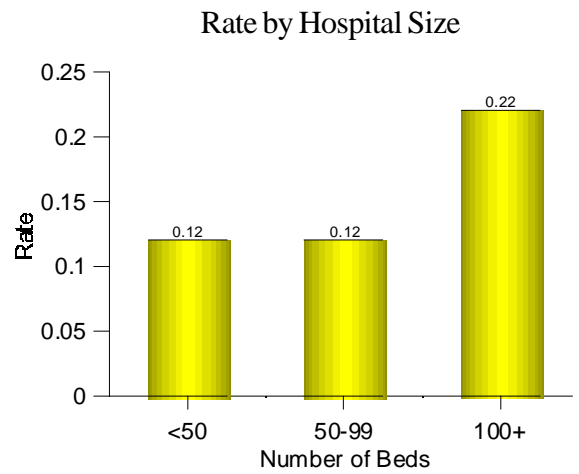
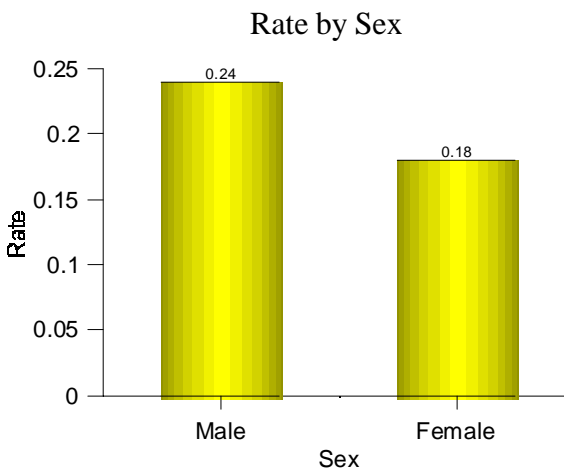
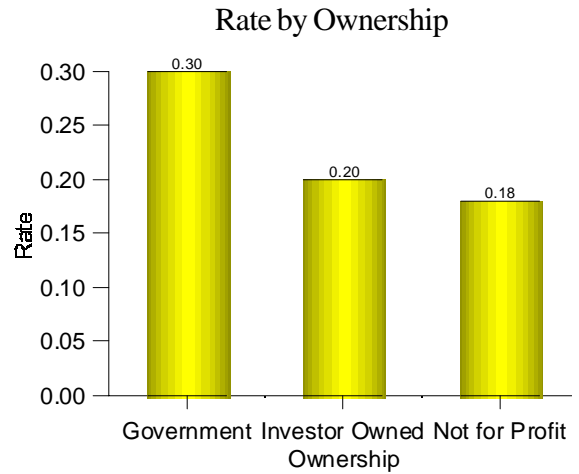
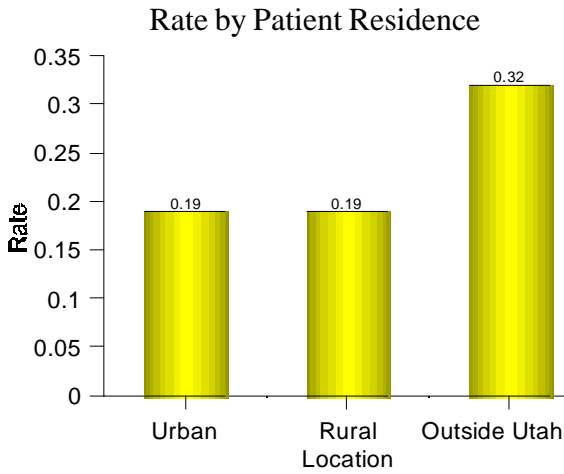


Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
125	1	University of Utah	18,845	62	0.33
121	1	LDS	22,604	85	0.38
141	2	McKay-Dee	13,927	24	0.17
120	2	Salt Lake Regional	7,611	14	0.18
138	2	Utah Valley Regional	20,212	41	0.20
124	2	St. Mark's	14,061	29	0.21
142	3	Ogden Regional	8,749	8	0.09
108	3	Davis Hospital	8,058	8	0.10
119	3	Cottonwood	12,957	14	0.11
126	3	Pioneer Valley	4,529	14	0.31
137	3	Mountain View	5,625	20	0.36
107	3	Lakeview	4,129	15	0.36
136	4	American Fork	6,432	3	0.05
118	4	Alta View	5,911	5	0.09
135	4	Orem Community	1,747	3	0.17
117	4	Jordan Valley	3,889	7	0.18
143	4	PHC**	6,441	15	0.23
112	5	Valley View	1,744	1	0.06
105	5	Logan Regional	8,247	9	0.11
140	5	Dixie Medical Center	9,162	15	0.16
106	5	Castleview	2,750	6	0.22
134	5	Ashley Valley	1,537	4	0.26
103	5	Brigham City	1,915	6	0.31
132	6	Sevier Valley	1,610	0	0.00
130	6	Sanpete Valley	455	0	0.00
110	6	Garfield Memorial	368	0	0.00
101	6	Beaver Valley	379	0	0.00
114	6	Kane County	381	0	0.00
102	6	Milford Valley	389	0	0.00
104	6	Bear River Valley	409	0	0.00
113	6	Central Valley	610	0	0.00
128	6	San Juan	395	0	0.00
116	6	Delta Community	417	0	0.00
115	6	Fillmore Community	262	0	0.00
111	6	Allen Memorial	641	1	0.16
139	6	Wasatch County	495	1	0.20
109	6	Uintah Basin	1,883	5	0.27
129	6	Gunnison Valley	891	3	0.34
133	6	Tooele Valley	180	1	0.56
122	N	Primary Children's	8,925	8	0.09

*peer group key on page 34 ** Closed 6-16-97

Wound Infection



Adverse Effects/ Iatrogenic Complications

This indicator combines a wide range of conditions and procedures that denotes potentially substandard care and poor outcomes. The rate of adverse effects/iatrogenic complications in Utah has been quite stable in the last three years; however, comparison by hospital size in 1996 shows large hospitals (more than 100 beds) have a higher adverse effects/iatrogenic complication rate.

Outcome:

Procedure to control hemorrhage or secondary diagnosis of post-operative hemorrhage or hematoma, miscellaneous post-op complication, iatrogenic complication, shock due to anesthesia, or other events such as accidental operative laceration, foreign body left during procedure, and ABO or Rh incompatibility

Population at risk:

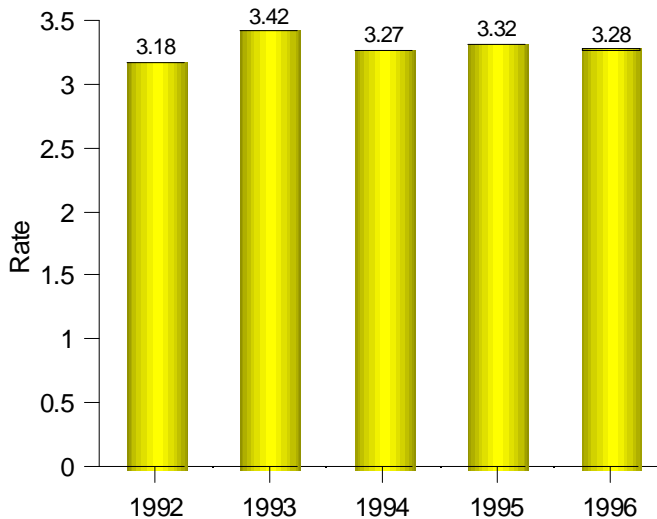
All discharges

Rate:

Number of complications per 100 discharges

6

Trend of Rate in Utah
1992-1996



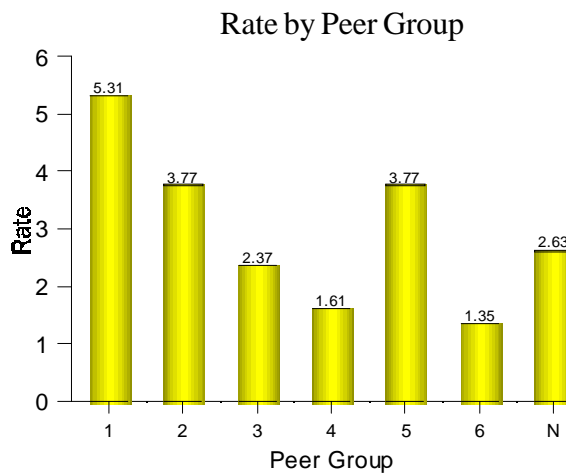
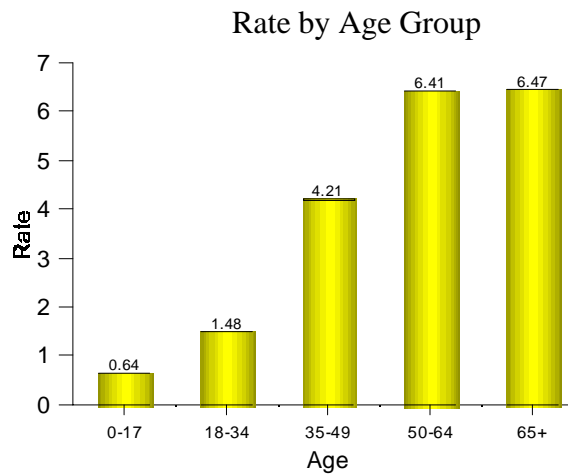
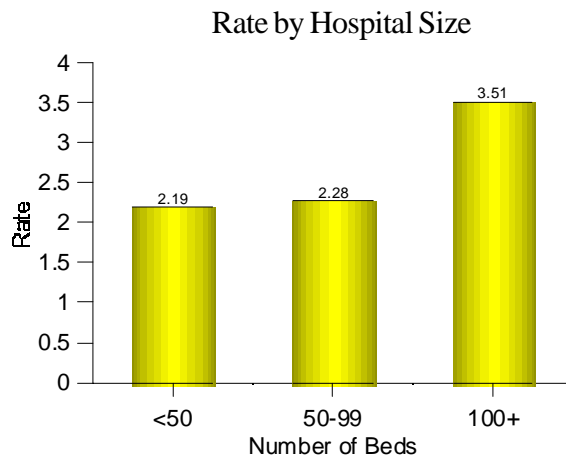
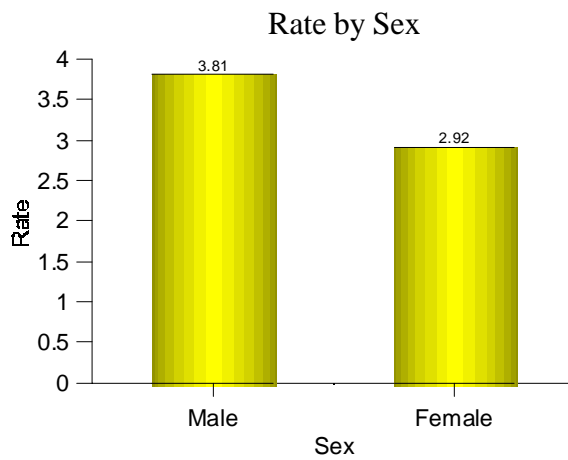
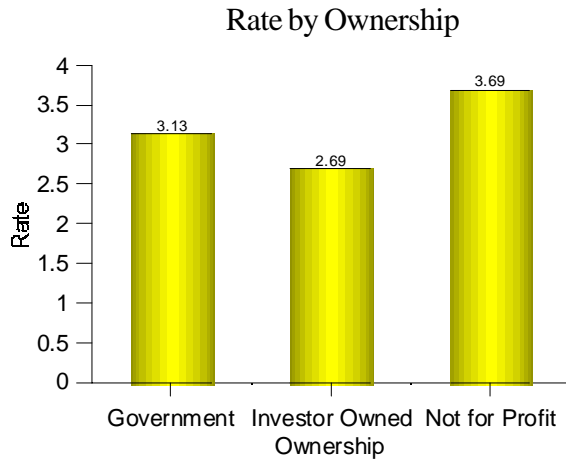
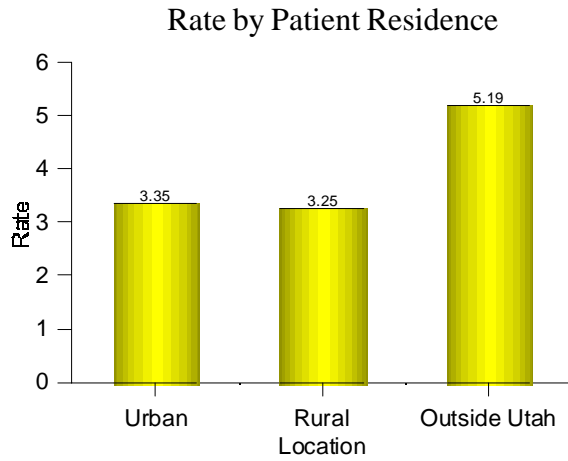
Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
125	1	University of Utah	18,845	769	4.08
121	1	LDS	22,604	1,429	6.32
124	2	St. Mark's	14,061	308	2.19
141	2	McKay-Dee	13,927	483	3.47
120	2	Salt Lake Regional	7,611	275	3.61
138	2	Utah Valley Regional	20,212	1,036	5.13
108	3	Davis Hospital	8,058	128	1.59
142	3	Ogden Regional	8,749	145	1.66
119	3	Cottonwood	12,957	349	2.69
126	3	Pioneer Valley	4,529	128	2.83
137	3	Mountain View	5,625	169	3.00
107	3	Lakeview	4,129	125	3.03
136	4	American Fork	6,432	53	0.82
135	4	Orem Community	1,747	16	0.92
118	4	Alta View	5,911	91	1.54
117	4	Jordan Valley	3,889	79	2.03
143	4	PHC**	6,441	155	2.41
105	5	Logan Regional	8,247	114	1.38
112	5	Valley View	1,744	37	2.12
134	5	Ashley Valley	1,537	55	3.58
140	5	Dixie Medical Center	9,162	437	4.77
103	5	Brigham City	1,915	128	6.68
106	5	Castleview	2,750	185	6.73
102	6	Milford Valley	389	0	0.00
129	6	Gunnison Valley	891	1	0.11
128	6	San Juan	395	1	0.25
101	6	Beaver Valley	379	1	0.26
116	6	Delta Community	417	2	0.48
139	6	Wasatch County	495	5	1.01
132	6	Sevier Valley	1,610	19	1.18
111	6	Allen Memorial	641	8	1.25
114	6	Kane County	381	5	1.31
130	6	Sanpete Valley	455	6	1.32
110	6	Garfield Memorial	368	5	1.36
104	6	Bear River Valley	409	6	1.47
113	6	Central Valley	610	9	1.48
109	6	Uintah Basin	1,883	46	2.44
115	6	Fillmore Community	262	7	2.67
133	6	Tooele Valley	180	11	6.11
122	N	Primary Children's	8,925	203	2.28

*peer group key on page 34 ** Closed 6-16-97

Adverse Affects/Iatrogenic Complications

1996 Rates of Occurrence



peer group key on page 34

Cesarean Section Delivery

It is widely recognized that the rate of C-section in the U.S. is too high. Maternal complications such as hemorrhage, infection, and mortality are more common in women who have a C-section than in women who deliver vaginally. Although the overall C-section delivery rate cannot determine inappropriate use, it may identify areas where C-section rates can be reduced. Year 2000 target: reduce C-sections to no more than 15 C-sections per 100 deliveries. The overall C-section delivery rate in Utah has declined during the last five years. If the trend continues at the same pace, the overall C-section rate of Utah hospitals would meet Year 2000 target within the next four years.

Population at risk:

All deliveries (DRGs 370-375)

Outcome:

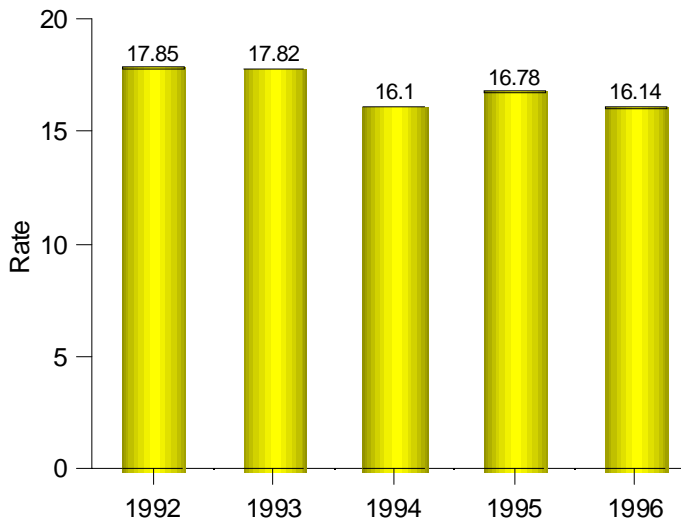
Cesarean section delivery

Rate:

Number of C-section per 100 deliveries

8

Trend of Rate in Utah
1992-1996



Individual Hospital Rates, 1996

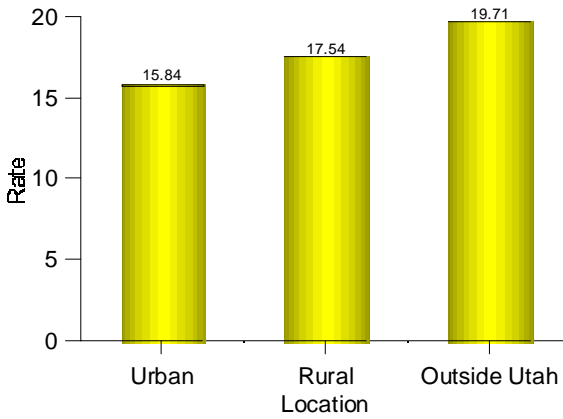
#	Peer*	Hospital	At Risk Pop	Outcome	Rate
121	1	LDS	3,858	637	16.51
125	1	University of Utah	2,708	485	17.91
120	2	Salt Lake Regional	1,684	219	13.01
138	2	Utah Valley Regional	4,081	560	13.72
141	2	McKay-Dee	2,724	470	17.25
124	2	St. Mark's	2,287	415	18.15
137	3	Mountain View	1,372	183	13.34
142	3	Ogden Regional	1,864	311	16.69
126	3	Pioneer Valley	761	132	17.35
119	3	Cottonwood	3,122	563	18.03
108	3	Davis Hospital	1,964	368	18.74
107	3	Lakeview	774	161	20.80
117	4	Jordan Valley	1,213	131	10.80
136	4	American Fork	2,125	254	11.95
118	4	Alta View	1,648	242	14.68
143	4	PHC**	998	153	15.33
135	4	Orem Community	741	128	17.27
105	5	Logan Regional	2,151	247	11.48
106	5	Castleview	394	54	13.71
112	5	Valley View	485	72	14.85
134	5	Ashley Valley	259	42	16.22
140	5	Dixie Medical Center	1,621	319	19.68
103	5	Brigham City	467	93	19.91
104	6	Bear River Valley	74	9	12.16
133	6	Tooele Valley	15	2	13.33
110	6	Garfield Memorial	37	5	13.51
132	6	Sevier Valley	208	34	16.35
128	6	San Juan	54	9	16.67
130	6	Sanpete Valley	118	20	16.95
115	6	Fillmore Community	41	7	17.07
116	6	Delta Community	101	19	18.81
101	6	Beaver Valley	49	11	22.45
102	6	Milford Valley	22	5	22.73
139	6	Wasatch County	109	25	22.94
114	6	Kane County	50	12	24.00
109	6	Uintah Basin	365	99	27.12
113	6	Central Valley	84	24	28.57
111	6	Allen Memorial	59	18	30.51
129	6	Gunnison Valley	166	54	32.53

*peer group key on page 34 ** Closed 6-16-97

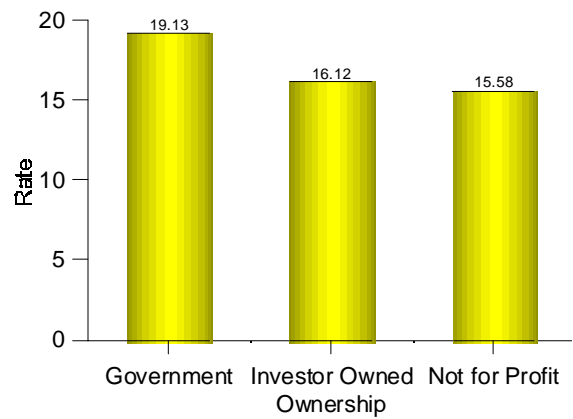
Cesarean Section Delivery

1996 Rates of Occurrence

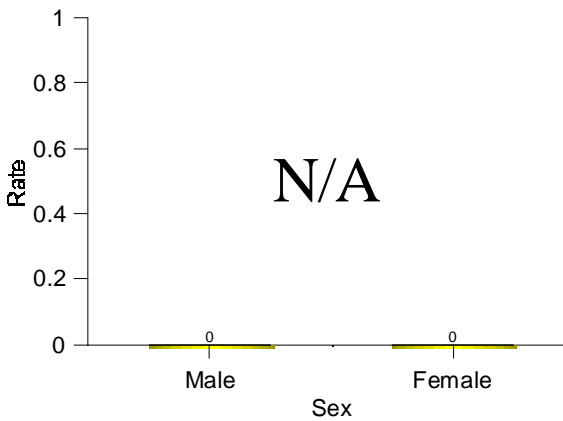
Rate by Patient Residence



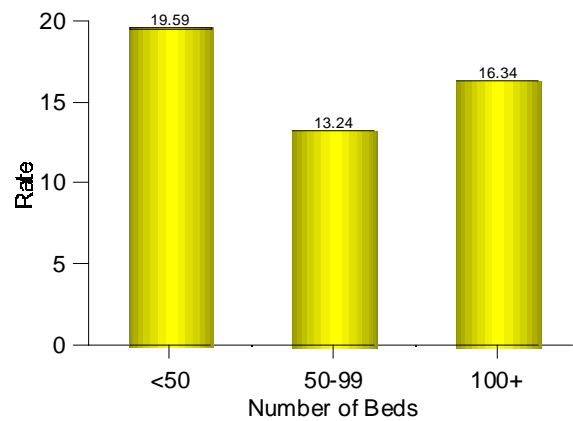
Rate by Ownership



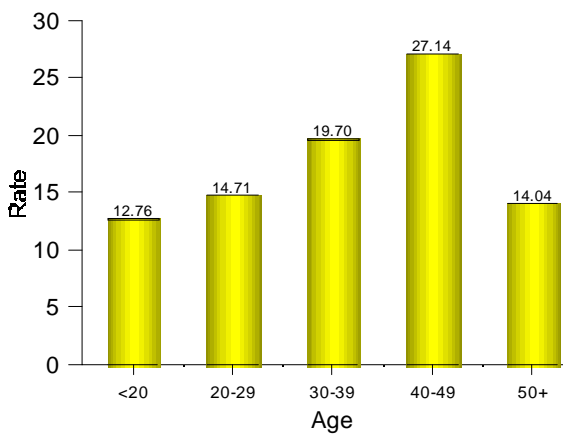
Rate by Sex



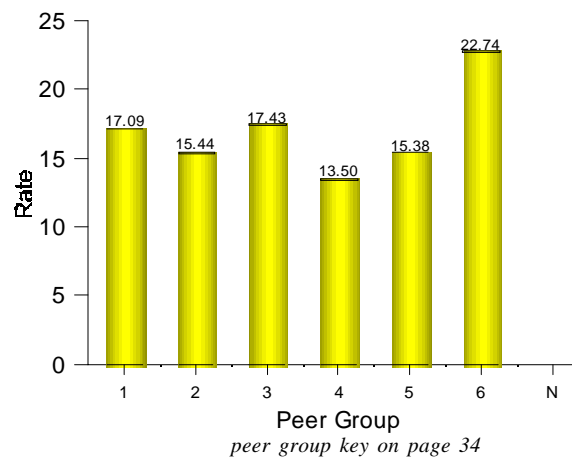
Rate by Hospital Size



Rate by Age Group



Rate by Peer Group



Vaginal Birth after C-Section

Although VBAC is safe and beneficial for most women with a prior Cesarean section, repeat C-sections account for a large percentage of C-section births in the U.S. A low VBAC rate cannot determine inappropriate use of C-section; however, it may identify areas where VBAC rates can be increased. Year 2000 target: reduce repeat C-sections to no more than 65 C-sections per 100 deliveries among women with previous C-sections (for a VBAC rate of at least 35 per 100). In Utah, the overall VBAC rate has continued to increase over the last five years. In fact, Utah VBAC has exceeded Year 2000 target since 1994.

Population at risk:

All deliveries (DRGs 370-375) with diagnosis of prior C-section

Outcome:

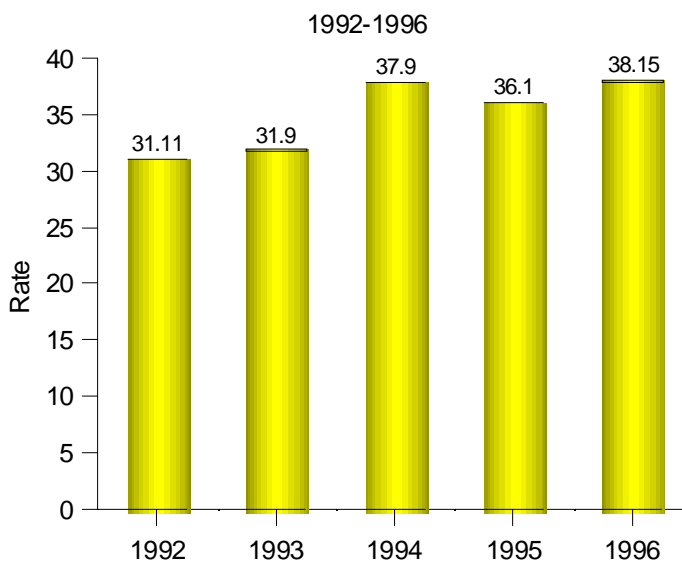
Vaginal delivery

Rate:

Number of vaginal births per 100 deliveries with prior C-section

10

Trend of Rate in Utah



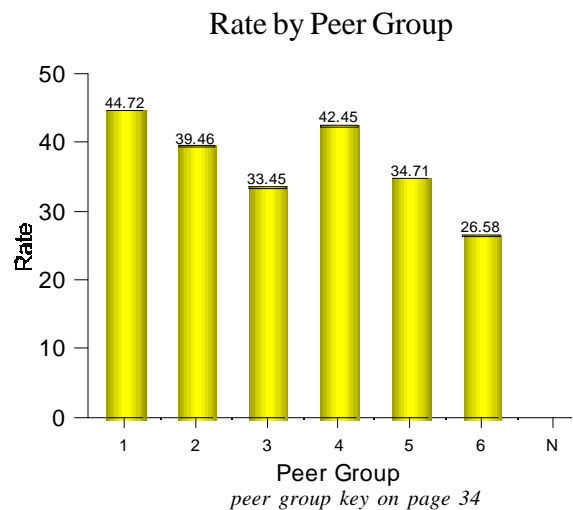
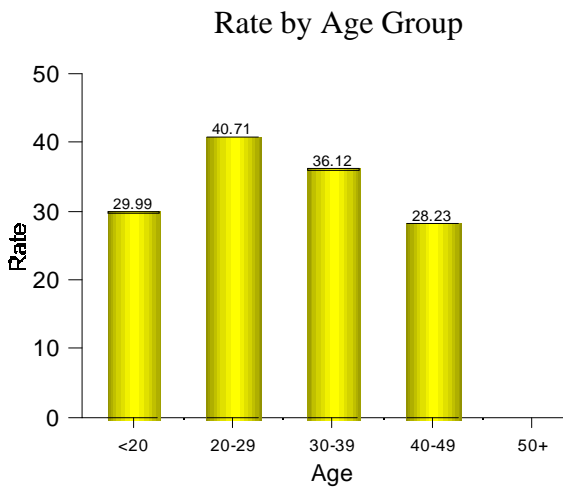
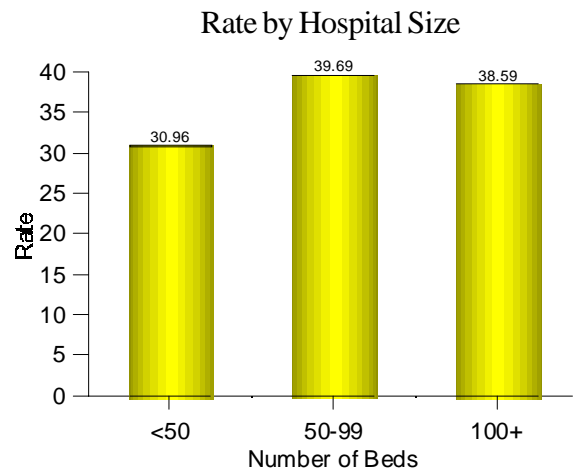
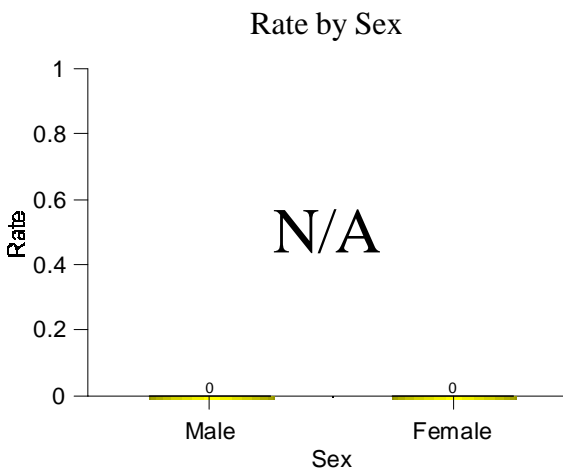
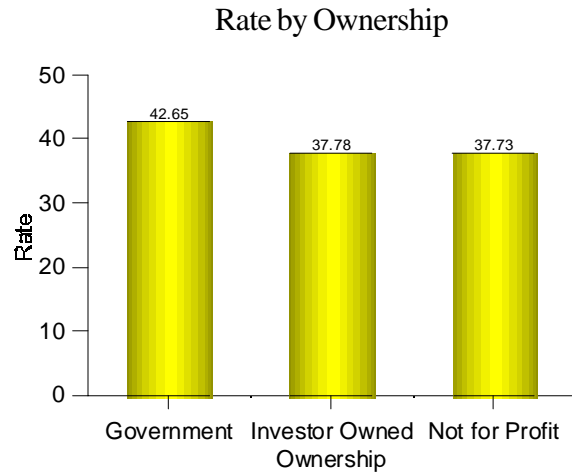
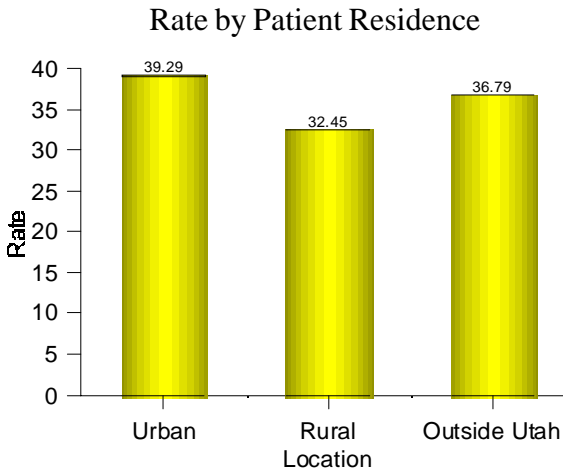
Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
125	1	University of Utah	255	128	50.20
121	1	LDS	427	177	41.45
120	2	Salt Lake Regional	141	67	47.52
141	2	McKay-Dee	299	126	42.14
124	2	St. Mark's	263	104	39.54
138	2	Utah Valley Regional	369	126	34.15
137	3	Mountain View	125	53	42.40
108	3	Davis Hospital	224	86	38.39
119	3	Cottonwood	404	142	35.15
142	3	Ogden Regional	168	49	29.17
126	3	Pioneer Valley	89	21	23.60
107	3	Lakeview	93	18	19.36
143	4	PHC**	113	58	51.33
117	4	Jordan Valley	118	60	50.85
118	4	Alta View	189	72	38.10
136	4	American Fork	171	65	38.01
135	4	Orem Community	78	29	37.18
112	5	Valley View	67	28	41.79
106	5	Castleview	25	10	40.00
105	5	Logan Regional	142	54	38.03
140	5	Dixie Medical Center	179	61	34.08
103	5	Brigham City	74	22	29.73
134	5	Ashley Valley	20	1	5.00
110	6	Garfield Memorial	6	5	83.33
116	6	Delta Community	16	10	62.50
128	6	San Juan	8	4	50.00
115	6	Fillmore Community	3	1	33.33
109	6	Uintah Basin	54	16	29.63
139	6	Wasatch County	12	3	25.00
132	6	Sevier Valley	13	3	23.08
104	6	Bear River Valley	5	0	0.00
111	6	Allen Memorial	3	0	0.00
113	6	Central Valley	10	0	0.00
114	6	Kane County	2	0	0.00
130	6	Sanpete Valley	1	0	0.00
101	6	Beaver Valley	3	0	0.00
129	6	Gunnison Valley	22	0	0.00
133	6	Tooele Valley	0	.	.
102	6	Milford Valley	0	.	.

*peer group key on page 34 ** Closed 6-16-97

Vaginal Birth After C-Section

1996 Rates of Occurrence



Laminectomy and/or Spinal Fusion

Studies suggest that laminectomy (removal of a portion of a vertebra) and spinal fusion (joining two or more vertebrae for stabilization) are not superior to non-surgical therapies for back pain and may, in fact, be inferior. Yet, the rates for laminectomy and spinal fusion in the U.S. have grown rapidly in recent years. Although the overall laminectomy rate cannot determine inappropriate use, it may identify areas where laminectomy rates can be reduced. The Utah rate has declined from 3.91 in 1992 to 3.53 in 1996.

Outcome:

Laminectomy, spinal exploration, excision or destruction of intervertebral disc, and/or spinal fusion

Population at risk:

Adults age 18+; exclude deliveries (DRGs 370-375)

Rate:

Number of procedures per 100 discharges

Individual Hospital Rates, 1996

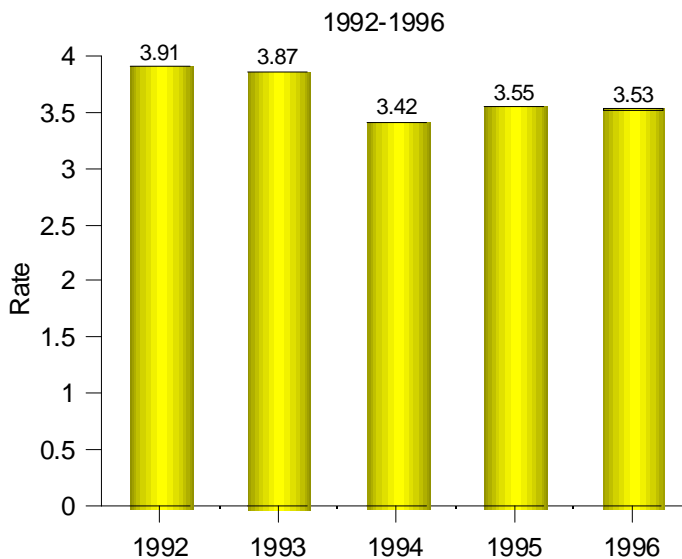
#	Peer*	Hospital	At Risk Pop	Outcome	Rate
125	1	University of Utah	12,262	555	4.53
121	1	LDS	14,279	752	5.27
120	2	Salt Lake Regional	4,033	98	2.43
141	2	McKay-Dee	7,411	261	3.52
124	2	St. Mark's	9,080	358	3.94
138	2	Utah Valley Regional	10,383	902	8.69
107	3	Lakeview	2,344	17	0.73
108	3	Davis Hospital	3,552	39	1.10
126	3	Pioneer Valley	2,832	42	1.48
142	3	Ogden Regional	4,505	110	2.44
137	3	Mountain View	2,446	136	5.56
119	3	Cottonwood	6,050	682	11.27
136	4	American Fork	1,778	1	0.06
143	4	PHC**	3,743	9	0.24
118	4	Alta View	2,397	12	0.50
134	5	Ashley Valley	898	0	0.00
140	5	Dixie Medical Center	5,172	11	0.21
105	5	Logan Regional	3,282	19	0.58
112	5	Valley View	640	6	0.94
106	5	Castleview	1,695	18	1.06
103	5	Brigham City	834	22	2.64
139	6	Wasatch County	230	7	3.04
122	N	Primary Children's	321	12	3.74

Do not offer this procedure

135	4	Orem Community	194	0	0.00
117	4	Jordan Valley	1,188	0	0.00
130	6	Sanpete Valley	197	0	0.00
133	6	Tooele Valley	147	0	0.00
132	6	Sevier Valley	947	0	0.00
129	6	Gunnison Valley	446	0	0.00
111	6	Allen Memorial	426	0	0.00
113	6	Central Valley	349	0	0.00
110	6	Garfield Memorial	230	0	0.00
104	6	Bear River Valley	219	0	0.00
109	6	Uintah Basin	849	0	0.00
114	6	Kane County	233	0	0.00
102	6	Milford Valley	301	0	0.00
101	6	Beaver Valley	255	0	0.00
128	6	San Juan	210	0	0.00
115	6	Fillmore Community	143	0	0.00
116	6	Delta Community	164	0	0.00

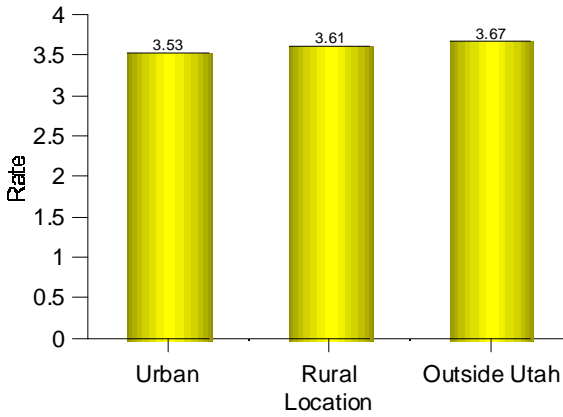
*peer group key on page 34 ** Closed 6-16-97

Trend of Rate in Utah

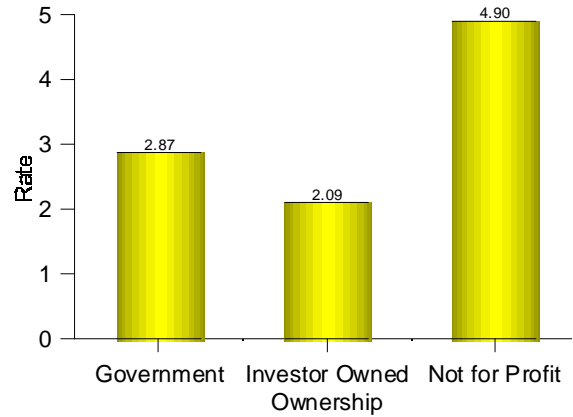


Laminectomy and/or Spinal Fusion

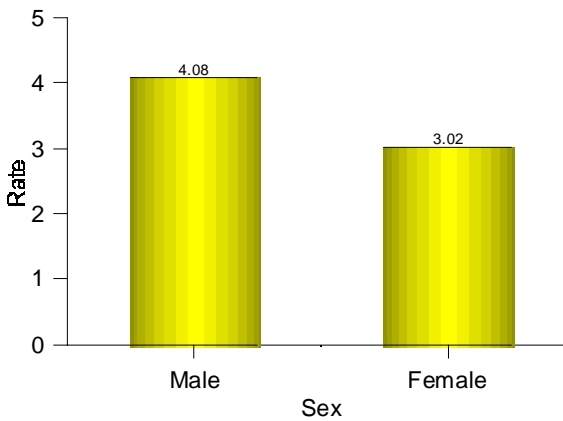
Rate by Patient Residence



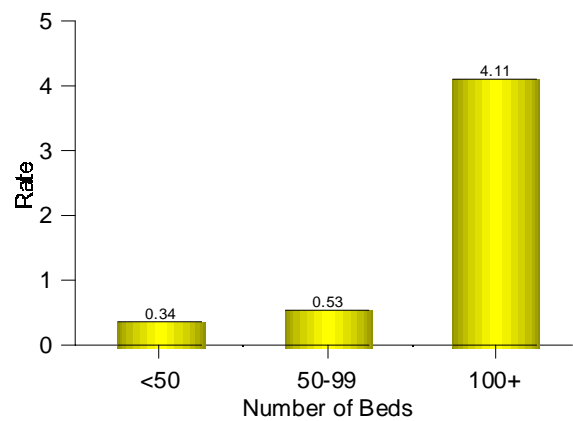
Rate by Ownership



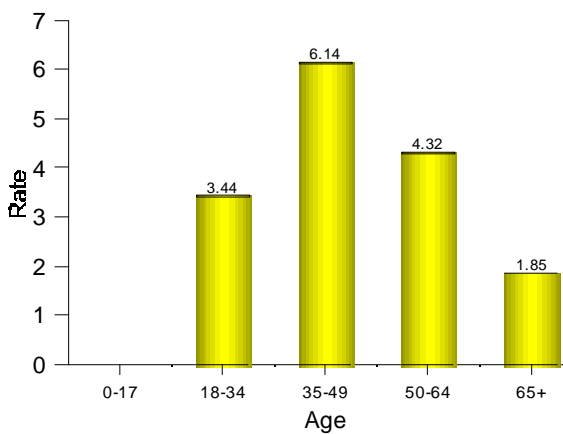
Rate by Sex



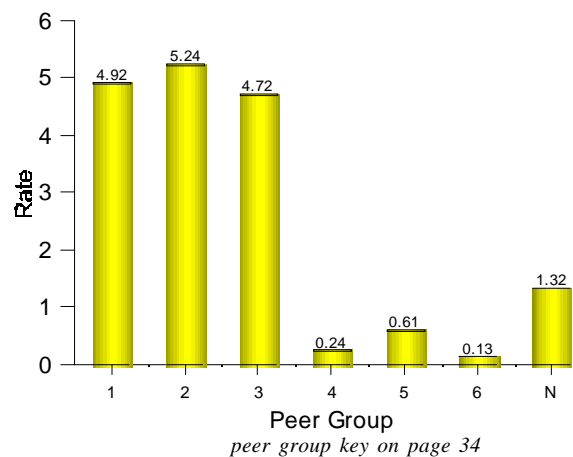
Rate by Hospital Size



Rate by Age Group



Rate by Peer Group



Hysterectomy

It is widely recognized that the rate of hysterectomy (surgical removal of the uterus) in the U.S. is too high and that hysterectomies are performed for inappropriate reasons. Although the overall hysterectomy rate cannot determine inappropriate use, it may identify areas where hysterectomy rates can be reduced. After an increase in 1995, Utah's overall hysterectomy rate decreased to 12.16 in 1996.

Population at risk:

Females age 18-64; exclude deliveries (DRG 370-375); exclude genital cancer and pelvic/lower abdominal trauma

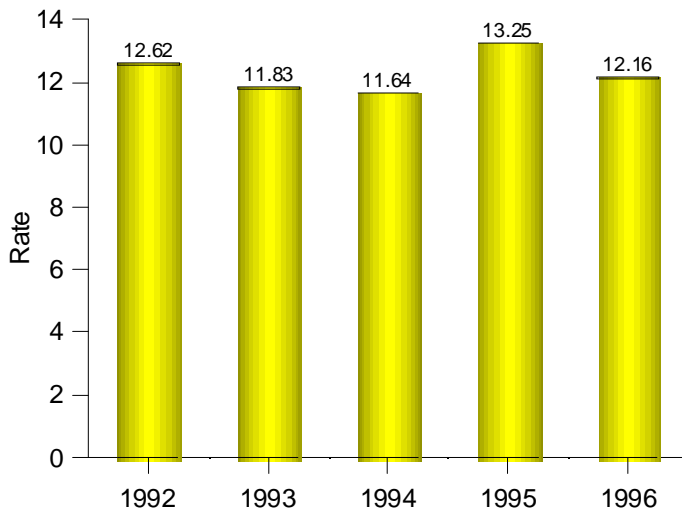
Outcome:

Abdominal or vaginal hysterectomy

Rate:

Number of procedures per 100 discharges

Trend of Rate in Utah
1992-1996



Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
125	1	University of Utah	4,070	107	2.63
121	1	LDS	4,165	405	9.72
138	2	Utah Valley Regional	3,044	206	6.77
120	2	Salt Lake Regional	1,079	147	13.62
124	2	St. Mark's	2,760	429	15.54
141	2	McKay-Dee	2,073	400	19.30
126	3	Pioneer Valley	853	82	9.61
137	3	Mountain View	645	87	13.49
142	3	Ogden Regional	1,276	191	14.97
119	3	Cottonwood	2,238	369	16.49
107	3	Lakeview	717	151	21.06
108	3	Davis Hospital	1,123	292	26.00
143	4	PHC**	1,049	97	9.25
136	4	American Fork	562	93	16.55
117	4	Jordan Valley	476	109	22.90
118	4	Alta View	960	239	24.90
135	4	Orem Community	99	29	29.29
105	5	Logan Regional	1,065	147	13.80
140	5	Dixie Medical Center	1,374	221	16.08
134	5	Ashley Valley	207	34	16.43
112	5	Valley View	207	34	16.43
106	5	Castleview	492	85	17.28
103	5	Brigham City	270	52	19.26
102	6	Milford Valley	108	0	0.00
132	6	Sevier Valley	296	8	2.70
128	6	San Juan	57	3	5.26
114	6	Kane County	77	5	6.49
110	6	Garfield Memorial	76	6	7.90
101	6	Beaver Valley	63	5	7.94
129	6	Gunnison Valley	129	11	8.53
139	6	Wasatch County	83	9	10.84
111	6	Allen Memorial	142	20	14.09
130	6	Sanpete Valley	43	7	16.28
104	6	Bear River Valley	71	12	16.90
109	6	Uintah Basin	326	57	17.49
113	6	Central Valley	120	24	20.00
133	6	Tooele Valley	0	.	.

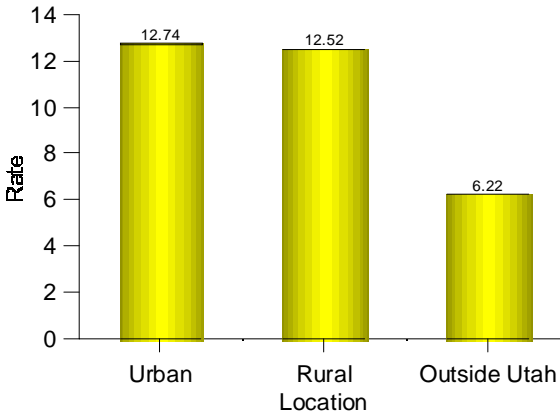
Do not perform this procedure

116	6	Delta Community	32	0	0.00
115	6	Fillmore Community	41	0	0.00

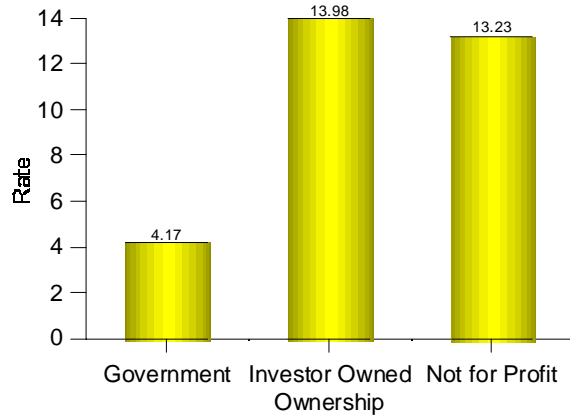
*peer group key on page 34 ** Closed 6-16-97

Hysterectomy

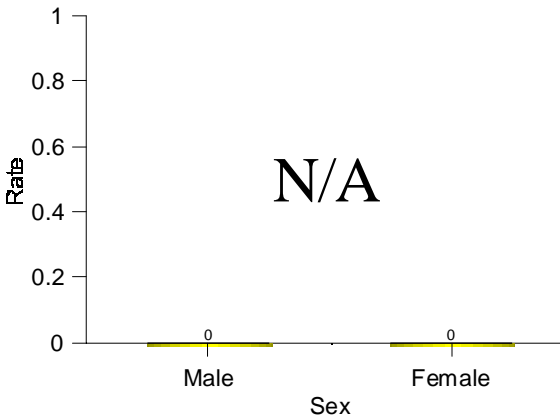
Rate by Patient Residence



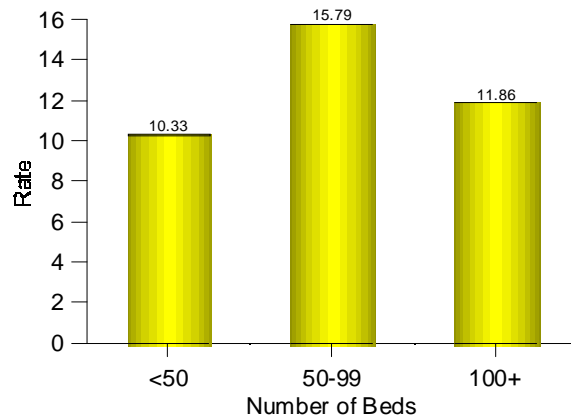
Rate by Ownership



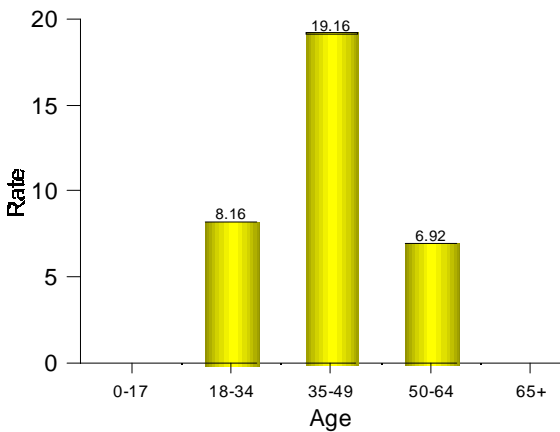
Rate by Sex



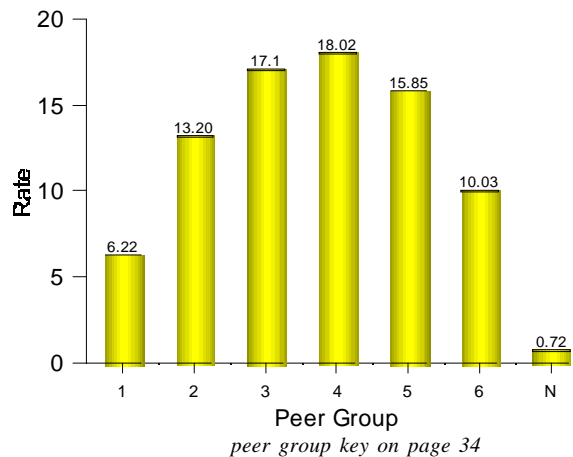
Rate by Hospital Size



Rate by Age Group



Rate by Peer Group



Radical Prostatectomy

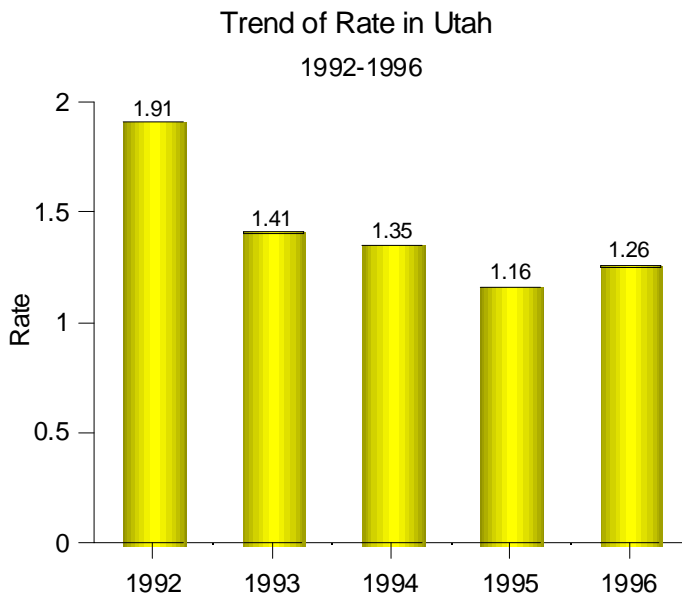
Radical prostatectomy (removal of the prostate through an open incision) is a common therapy for localized prostate cancer, a very slow-growing tumor in elderly men. The probability of medical complications following surgery is high, and there is no evidence that prostatectomy is superior to less invasive therapy. Although the overall radical prostatectomy rate cannot determine inappropriate use, it may identify areas where radical prostatectomy rates can be reduced. Utah's radical prostatectomy rate has substantially decreased over the last five years.

Outcome:
Radical prostatectomy

Population at risk:
Males age 50+

Rate:
Number of procedures per 100 discharges

16



Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
125	1	University of Utah	3,110	49	1.58
121	1	LDS	4,556	99	2.17
124	2	St. Mark's	2,722	13	0.48
141	2	McKay-Dee	2,347	25	1.07
138	2	Utah Valley Regional	3,339	36	1.08
120	2	Salt Lake Regional	1,358	27	1.99
126	3	Pioneer Valley	706	2	0.28
142	3	Ogden Regional	1,401	5	0.36
137	3	Mountain View	686	9	1.31
107	3	Lakeview	610	16	2.62
108	3	Davis Hospital	974	27	2.77
119	3	Cottonwood	1,638	60	3.66
143	4	PHC**	1,098	4	0.36
118	4	Alta View	595	8	1.35
117	4	Jordan Valley	277	4	1.44
136	4	American Fork	474	10	2.11
112	5	Valley View	212	1	0.47
103	5	Brigham City	211	1	0.47
105	5	Logan Regional	878	12	1.37
140	5	Dixie Medical Center	1,745	37	2.12
133	6	Tooele Valley	64	0	0.00
132	6	Sevier Valley	269	0	0.00

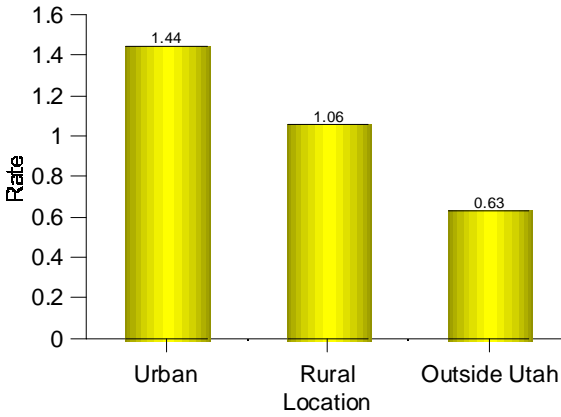
Do not perform this procedure

135	4	Orem Community	27	0	0.00
106	5	Castleview	469	0	0.00
134	5	Ashley Valley	288	0	0.00
102	6	Milford Valley	76	0	0.00
139	6	Wasatch County	52	0	0.00
101	6	Beaver Valley	61	0	0.00
113	6	Central Valley	99	0	0.00
114	6	Kane County	63	0	0.00
115	6	Fillmore Community	33	0	0.00
109	6	Uintah Basin	219	0	0.00
110	6	Garfield Memorial	66	0	0.00
111	6	Allen Memorial	117	0	0.00
128	6	San Juan	77	0	0.00
129	6	Gunnison Valley	113	0	0.00
130	6	Sanpete Valley	72	0	0.00
116	6	Delta Community	59	0	0.00
104	6	Bear River Valley	53	0	0.00

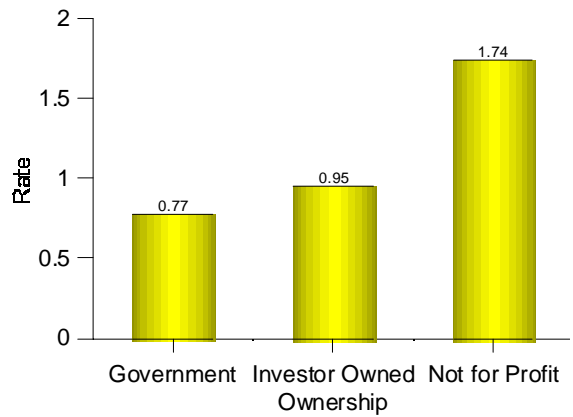
*peer group key on page 34 ** Closed 6-16-97

Radical Prostatectomy

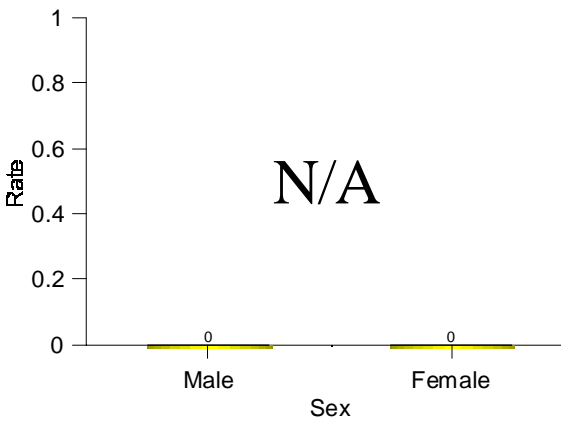
Rate by Patient Residence



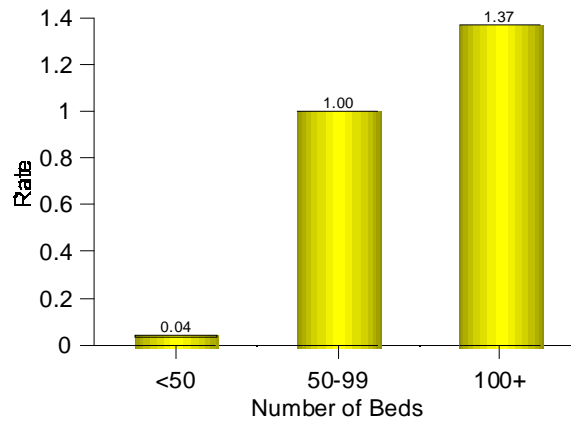
Rate by Ownership



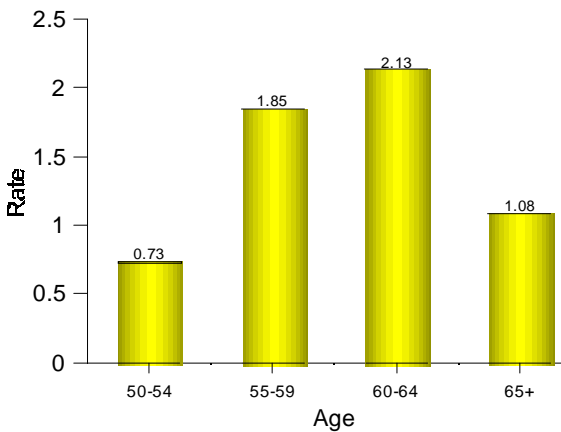
Rate by Sex



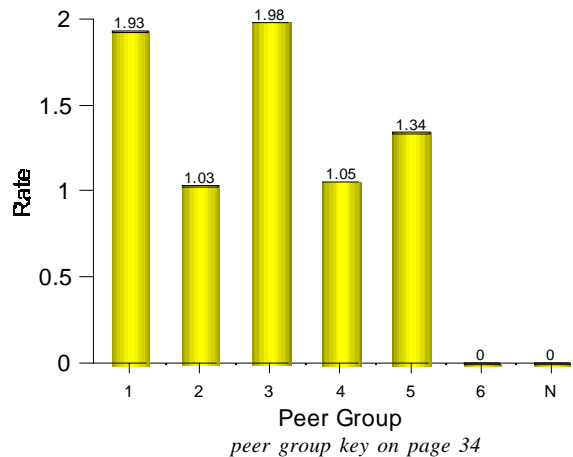
Rate by Hospital Size



Rate by Age Group



Rate by Peer Group



Laparoscopic Cholecystectomy

Cholecystectomy (surgical removal of the gallbladder) performed using a laparoscope has significantly lower morbidity and mortality than open cholecystectomy. This indicator demonstrates the extent to which this new, less invasive technology has been adopted. According to 1996 data, Utah hospitals in the rural areas have performed this procedure more frequently than hospitals in the urban areas.

Outcome:

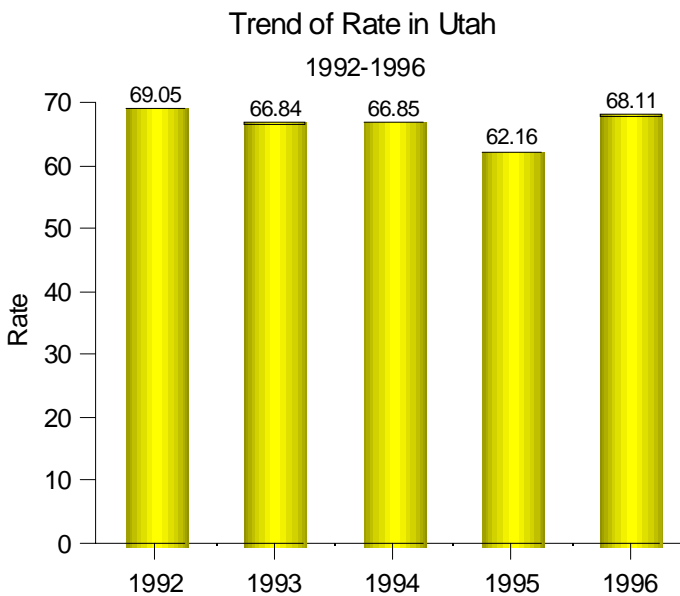
Laparoscopic cholecystectomy

Population at risk:

Cholecystectomy with diagnosis of uncomplicated cholecystitis and/or cholelithiasis; adults age 18+; exclude deliveries (DRGs 370-375)

Rate:

Number of laparoscopic procedures per 100 cholecystectomies



Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
125	1	University of Utah	40	30	75.00
121	1	LDS	211	127	60.19
138	2	Utah Valley Regional	243	205	84.36
120	2	Salt Lake Regional	21	16	76.19
141	2	McKay-Dee	117	77	65.81
124	2	St. Mark's	306	92	30.07
137	3	Mountain View	32	30	93.75
108	3	Davis Hospital	80	70	87.50
119	3	Cottonwood	142	122	85.92
126	3	Pioneer Valley	40	31	77.50
142	3	Ogden Regional	59	40	67.80
107	3	Lakeview	36	24	66.67
118	4	Alta View	51	46	90.20
117	4	Jordan Valley	28	22	78.57
136	4	American Fork	23	14	60.87
143	4	PHC**	100	40	40.00
135	4	Orem Community	0	.	.
106	5	Castleview	48	43	89.58
140	5	Dixie Medical Center	113	97	85.84
134	5	Ashley Valley	13	11	84.62
112	5	Valley View	10	8	80.00
103	5	Brigham City	31	24	77.42
105	5	Logan Regional	39	28	71.80
111	6	Allen Memorial	8	8	100.00
130	6	Sanpete Valley	5	5	100.00
129	6	Gunnison Valley	9	9	100.00
109	6	Uintah Basin	35	34	97.14
132	6	Sevier Valley	52	47	90.39
104	6	Bear River Valley	4	3	75.00
113	6	Central Valley	8	6	75.00
133	6	Tooele Valley	3	1	33.33
139	6	Wasatch County	2	0	0.00

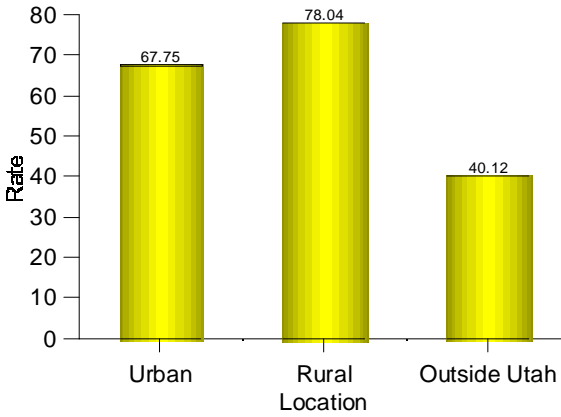
Do not perform this procedure

110	6	Garfield Memorial	2	0	0.00
102	6	Milford Valley	0	.	.
128	6	San Juan	0	.	.
114	6	Kane County	0	.	.
115	6	Fillmore Community	0	.	.
101	6	Beaver Valley	0	.	.
116	6	Delta Community	0	.	.

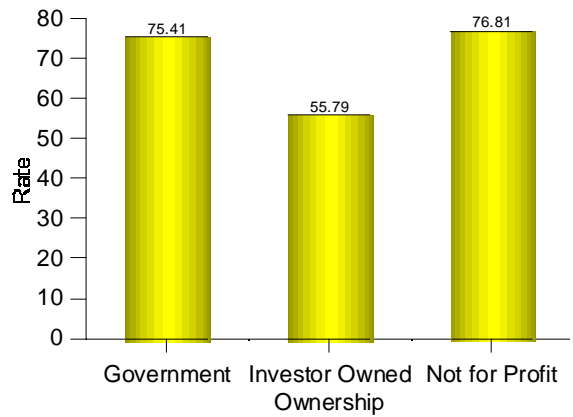
*peer group key on page 34 ** Closed 6-16-97

Laparoscopic Cholecystectomy

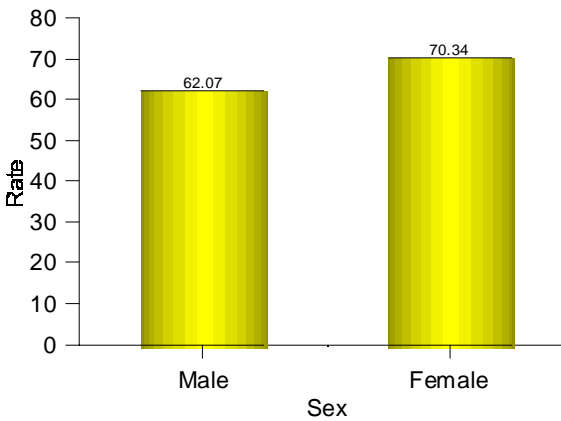
Rate by Patient Residence



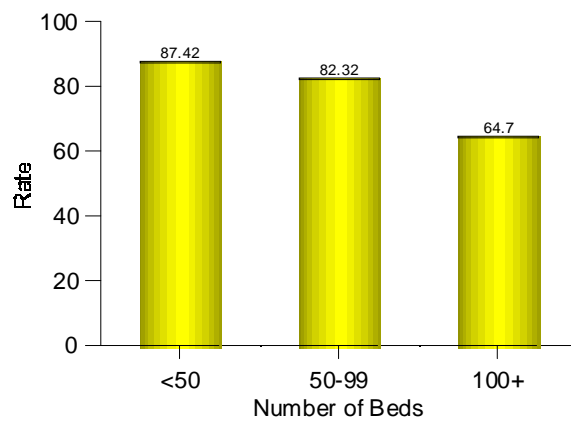
Rate by Ownership



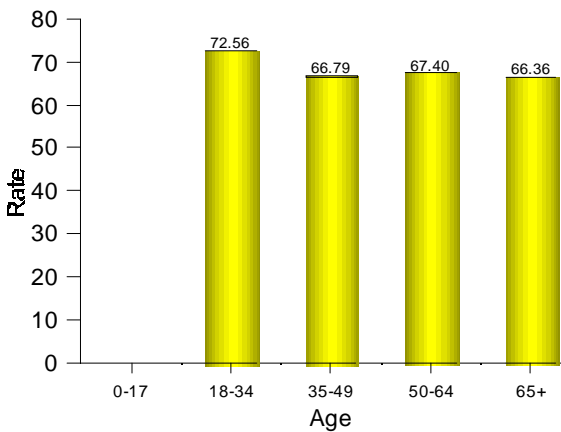
Rate by Sex



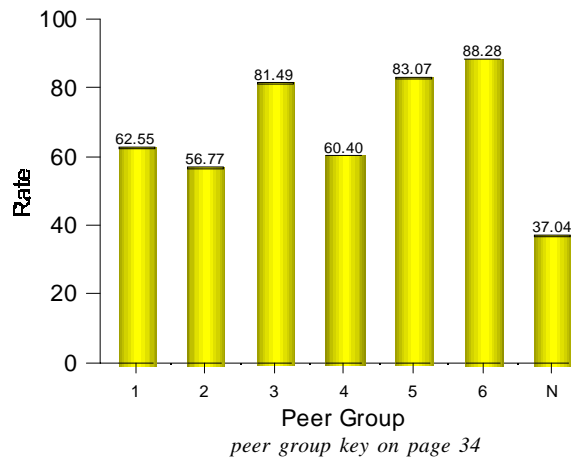
Rate by Hospital Size



Rate by Age Group



Rate by Peer Group



Coronary Artery Bypass Graft

CABG (surgical restoration of blood flow to the coronary arteries) is a common therapy for coronary artery disease. It is known that the outcomes from CABG are better at institutions that perform more CABGs, but it is also known that many CABGs may be unnecessary. Although the overall CABG rate cannot determine inappropriate use, it may identify areas where CABG rates can be reduced or where too few procedures are performed. Utah's rate remained quite stable from 1992 to 1995. In 1996, the statewide rate increased to 2.04.

Outcome:

CABG with or without cardiac catheterization

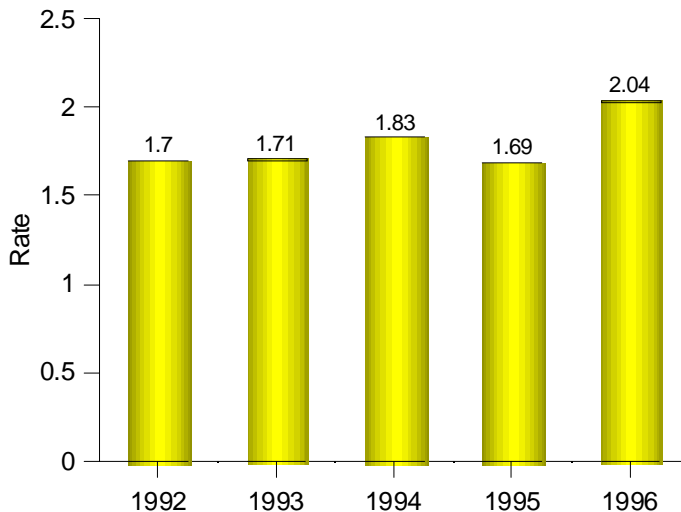
Population at risk:

Adults age 40+; exclude deliveries (DRGs 370-375); exclude transfers from another institution

Rate:

Number of procedures per 100 discharges

Trend of Rate in Utah
1992-1996



Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
125	1	University of Utah	8,358	118	1.41
121	1	LDS	11,237	630	5.61
120	2	Salt Lake Regional	3,347	95	2.84
138	2	Utah Valley Regional	8,066	272	3.37
124	2	St. Mark's	7,517	282	3.75
141	2	McKay-Dee	5,990	228	3.81
142	3	Ogden Regional	3,506	86	2.45

Do not perform this procedure

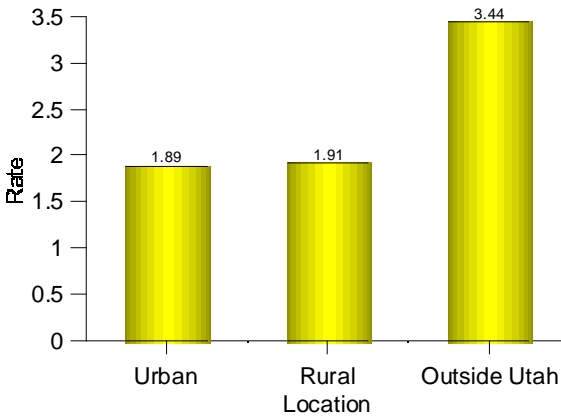
126	3	Pioneer Valley	2,193	0	0.00
108	3	Davis Hospital	2,900	0	0.00
107	3	Lakeview	1,891	0	0.00
137	3	Mountain View	1,998	0	0.00
119	3	Cottonwood	4,574	30***	0.66
117	4	Jordan Valley	784	0	0.00
135	4	Orem Community	119	0	0.00
118	4	Alta View	1,764	0	0.00
143	4	PHC**	3,112	0	0.00
136	4	American Fork	1,371	0	0.00
140	5	Dixie Medical Center	4,274	0	0.00
134	5	Ashley Valley	762	0	0.00
105	5	Logan Regional	2,500	0	0.00
106	5	Castleview	1,358	0	0.00
112	5	Valley View	516	0	0.00
103	5	Brigham City	617	0	0.00
132	6	Sevier Valley	733	0	0.00
130	6	Sanpete Valley	175	0	0.00
139	6	Wasatch County	176	0	0.00
133	6	Tooele Valley	147	0	0.00
111	6	Allen Memorial	307	0	0.00
113	6	Central Valley	290	0	0.00
114	6	Kane County	193	0	0.00
104	6	Bear River Valley	163	0	0.00
109	6	Uintah Basin	622	0	0.00
110	6	Garfield Memorial	169	0	0.00
101	6	Beaver Valley	205	0	0.00
128	6	San Juan	170	0	0.00
129	6	Gunnison Valley	379	0	0.00
115	6	Fillmore Community	98	0	0.00
116	6	Delta Community	137	0	0.00
102	6	Milford Valley	237	0	0.00

*** Had CABG program in 1996 - the program is now closed.

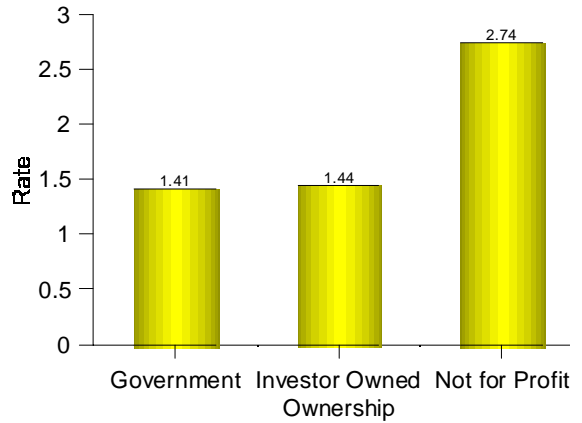
*peer group key on page 34 ** Closed 6-16-97

Coronary Artery Bypass Graft

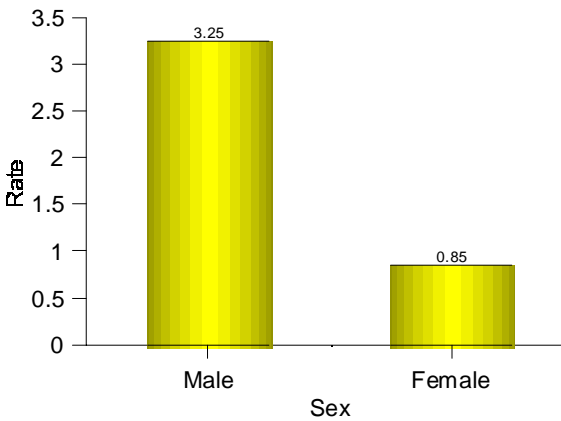
Rate by Patient Residence



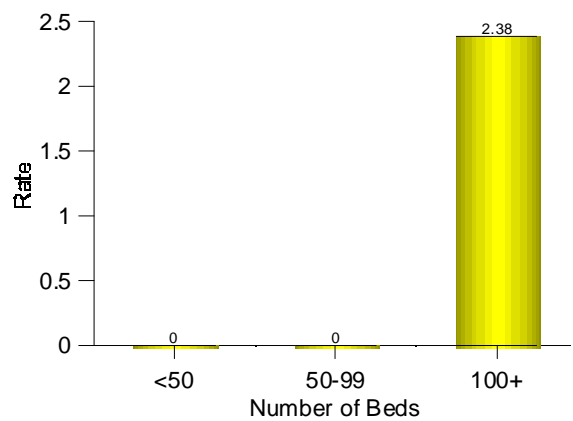
Rate by Ownership



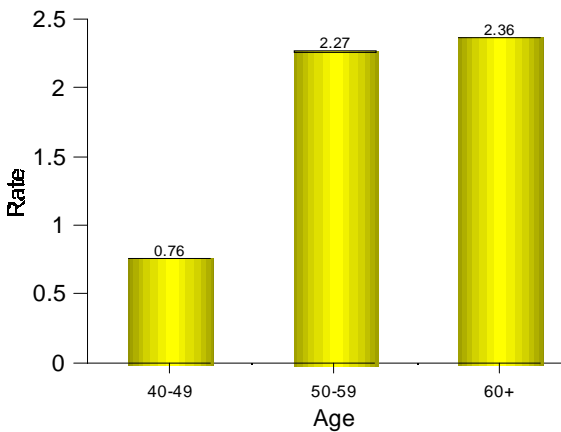
Rate by Sex



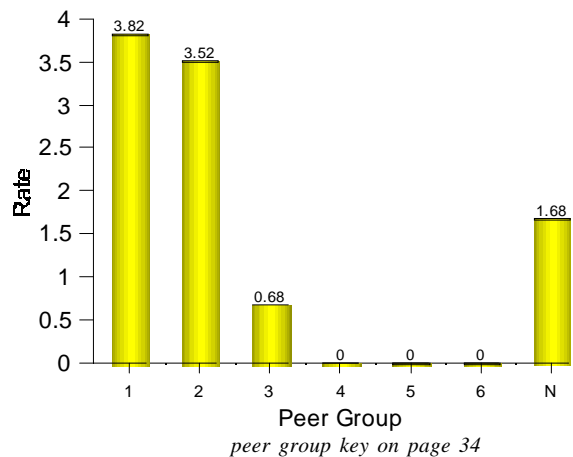
Rate by Hospital Size



Rate by Age Group



Rate by Peer Group



Low Birthweight

Low birthweight is a major determinant of infant mortality. Maternal factors that influence birthweight are smoking cessation, reduced maternal weight gain, and initiation of early prenatal care. Hospitals with high rates of low birthweight may reveal a problem in access to prenatal care in the community. Year 2000 target: reduce birthweight < 2,500 grams to no more than 5 per 100 live births. The low birthweight rate in Utah significantly increased from 4.32 in 1995 to 5.07 in 1996.

Outcome:

Diagnosis of light for dates, fetal malnutrition, fetal growth retardation, extreme immaturity, or pre-term infant with birthweight less than 2,500 grams or birthweight unspecified

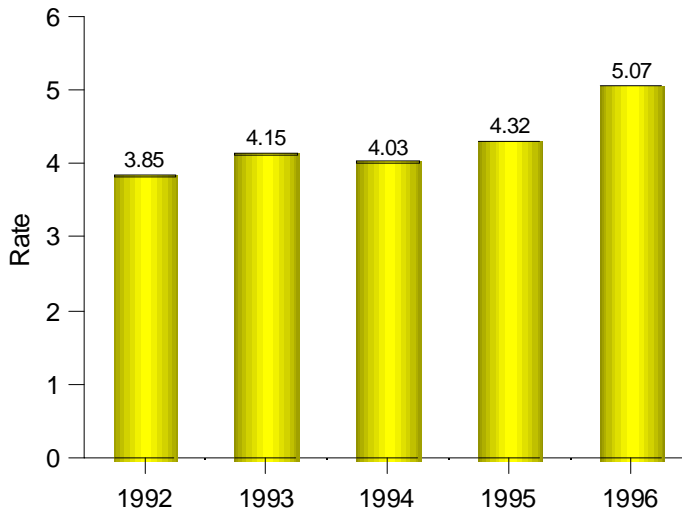
Population at risk:

MDC 15 (newborns and other neonates); exclude transfers from another institution

Rate:

Number of births less than 2500 grams per 100 newborns

Trend of Rate in Utah
1992-1996



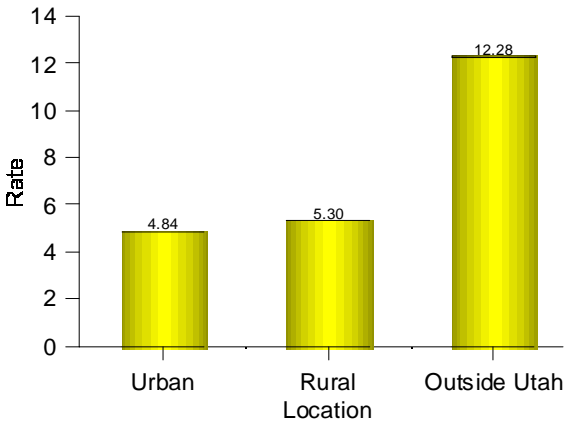
Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
121	1	LDS	3,982	276	6.93
125	1	University of Utah	2,815	428	15.20
120	2	Salt Lake Regional	1,686	57	3.38
124	2	St. Mark's	2,332	83	3.56
138	2	Utah Valley Regional	4,324	224	5.18
141	2	McKay-Dee	2,811	154	5.48
137	3	Mountain View	1,406	40	2.85
119	3	Cottonwood	3,185	114	3.58
107	3	Lakeview	789	29	3.68
142	3	Ogden Regional	1,922	80	4.16
108	3	Davis Hospital	2,012	87	4.32
126	3	Pioneer Valley	775	36	4.65
118	4	Alta View	1,665	32	1.92
117	4	Jordan Valley	1,232	25	2.03
136	4	American Fork	2,146	56	2.61
135	4	Orem Community	751	23	3.06
143	4	PHC	1,073	50	4.66
103	5	Brigham City	480	14	2.92
140	5	Dixie Medical Center	1,670	49	2.93
134	5	Ashley Valley	267	8	3.00
105	5	Logan Regional	2,224	89	4.00
112	5	Valley View	492	23	4.68
106	5	Castleview	423	29	6.86
133	6	Tooele Valley	15	0	0.00
104	6	Bear River Valley	74	0	0.00
114	6	Kane County	58	0	0.00
115	6	Fillmore Community	43	0	0.00
110	6	Garfield Memorial	38	0	0.00
139	6	Wasatch County	109	1	0.92
132	6	Sevier Valley	217	3	1.38
129	6	Gunnison Valley	167	3	1.80
101	6	Beaver Valley	50	1	2.00
128	6	San Juan	79	2	2.53
113	6	Central Valley	92	3	3.26
130	6	Sanpete Valley	117	4	3.42
109	6	Uintah Basin	372	14	3.76
111	6	Allen Memorial	75	3	4.00
102	6	Milford Valley	24	1	4.17
116	6	Delta Community	104	8	7.69
122	N	Primary Children's	573	113	19.72

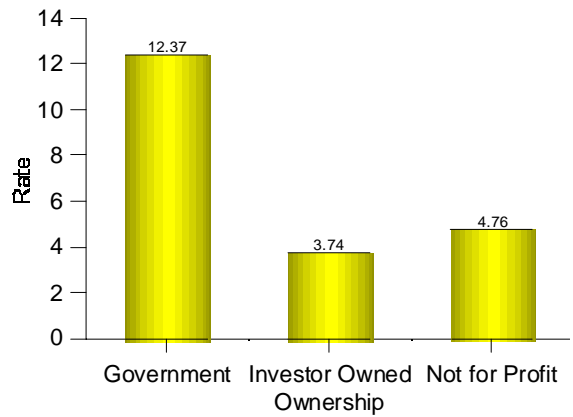
*peer group key on page 34 ** Closed 6-16-97

Low Birthweight

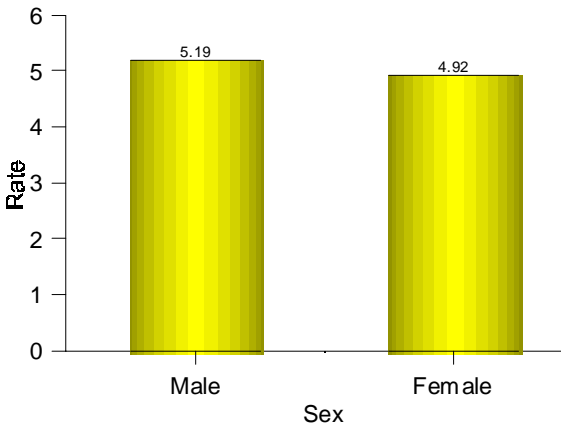
Rate by Patient Residence



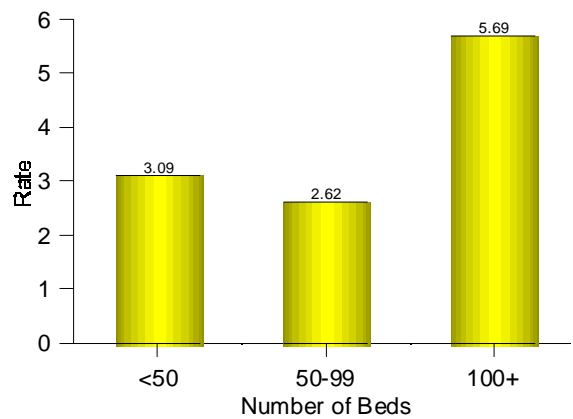
Rate by Ownership



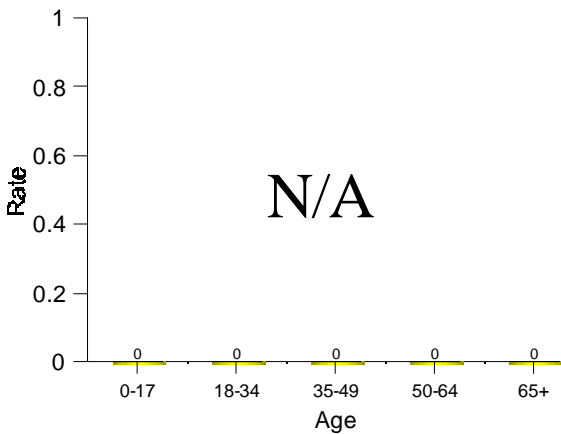
Rate by Sex



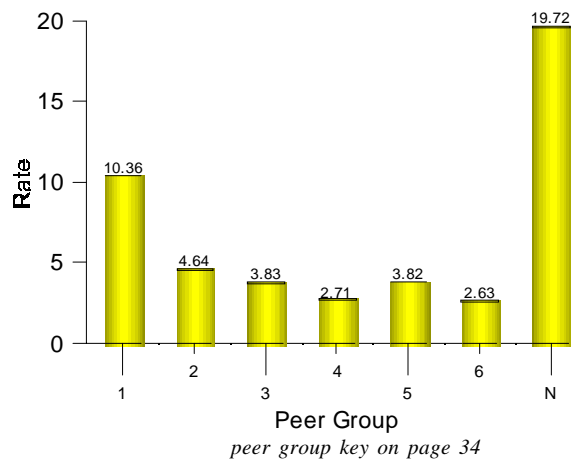
Rate by Hospital Size



Rate by Age Group



Rate by Peer Group



Pediatric Asthma

Adequate ambulatory care can prevent many hospitalizations for asthma. Studies have shown that hospitalization for asthma is a particular problem among poor children and adolescents. Hospitals with high rates of pediatric asthma may reveal a problem in access to primary care in the community. In 1996, only 5.73 percent of Utah female children and adolescents were diagnosed with asthma, compared to 7.95 percent for the male population of the same age.

Population at risk:

Children age <18; exclude MDC 15 (all maternal and neonatal discharges)

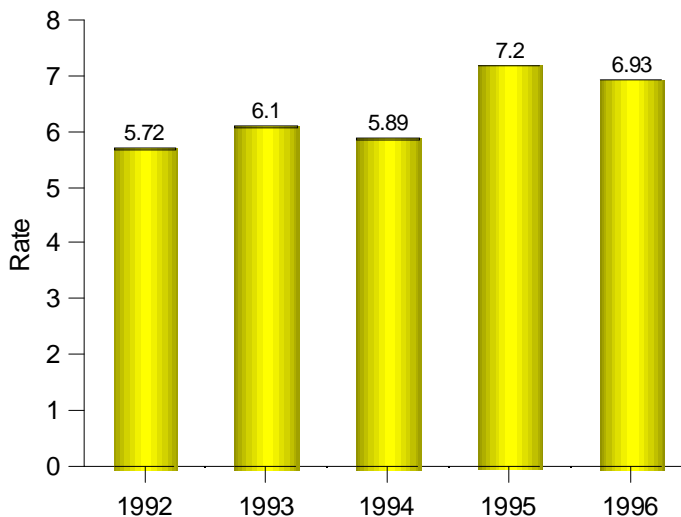
Outcomes:

Diagnosis of asthma

Rate:

Number of discharges with asthma per 100 discharges

Trend of Rate in Utah
1992-1996



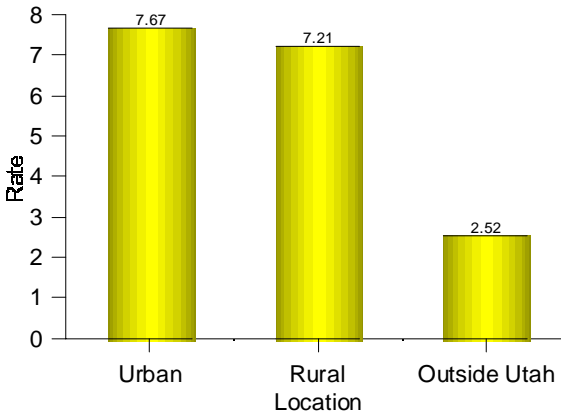
Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
125	1	University of Utah	522	9	1.72
121	1	LDS	183	5	2.73
120	2	Salt Lake Regional	138	0	0.00
124	2	St. Mark's	161	5	3.11
141	2	McKay-Dee	798	56	7.02
138	2	Utah Valley Regional	1,202	97	8.07
107	3	Lakeview	191	6	3.14
108	3	Davis Hospital	328	28	8.54
137	3	Mountain View	318	33	10.38
142	3	Ogden Regional	388	47	12.11
119	3	Cottonwood	415	56	13.49
126	3	Pioneer Valley	127	27	21.26
135	4	Orem Community	18	0	0.00
118	4	Alta View	143	2	1.40
136	4	American Fork	270	13	4.82
117	4	Jordan Valley	160	25	15.63
143	4	PHC	518	82	15.83
140	5	Dixie Medical Center	542	33	6.09
103	5	Brigham City	122	9	7.38
134	5	Ashley Valley	98	11	11.22
105	5	Logan Regional	481	55	11.44
112	5	Valley View	108	15	13.89
106	5	Castleview	191	31	16.23
139	6	Wasatch County	39	0	0.00
115	6	Fillmore Community	29	0	0.00
102	6	Milford Valley	37	0	0.00
114	6	Kane County	34	0	0.00
110	6	Garfield Memorial	55	1	1.82
101	6	Beaver Valley	15	1	6.67
116	6	Delta Community	44	3	6.82
104	6	Bear River Valley	38	3	7.90
109	6	Uintah Basin	190	16	8.42
128	6	San Juan	43	4	9.30
111	6	Allen Memorial	62	6	9.68
129	6	Gunnison Valley	87	9	10.35
132	6	Sevier Valley	202	24	11.88
130	6	Sanpete Valley	16	2	12.50
113	6	Central Valley	75	11	14.67
133	6	Tooele Valley	0	.	.
122	N	Primary Children's	8,031	452	5.63

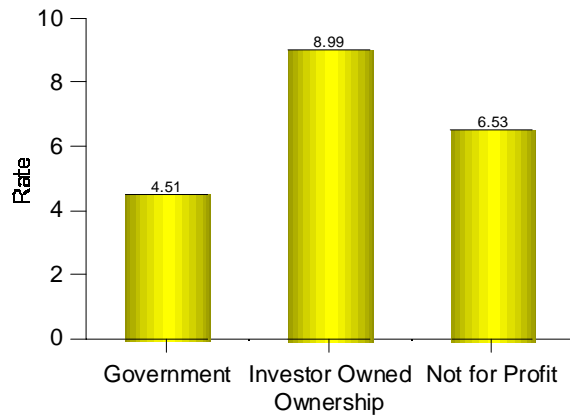
*peer group key on page 34 ** Closed 6-16-97

Pediatric Asthma

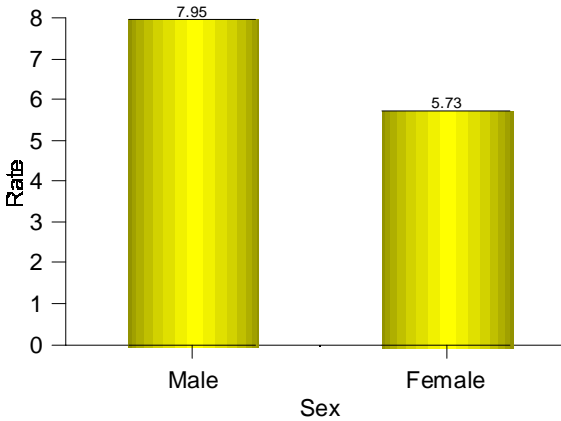
Rate by Patient Residence



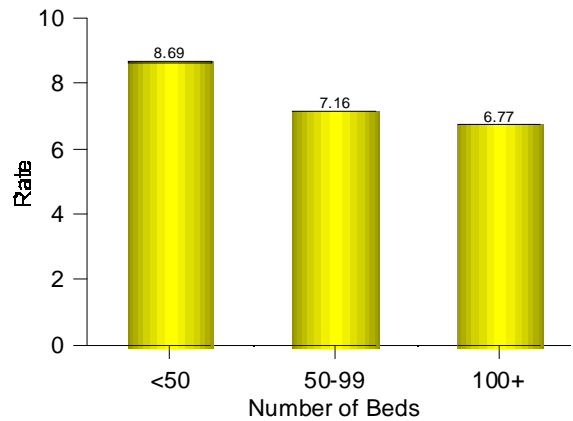
Rate by Ownership



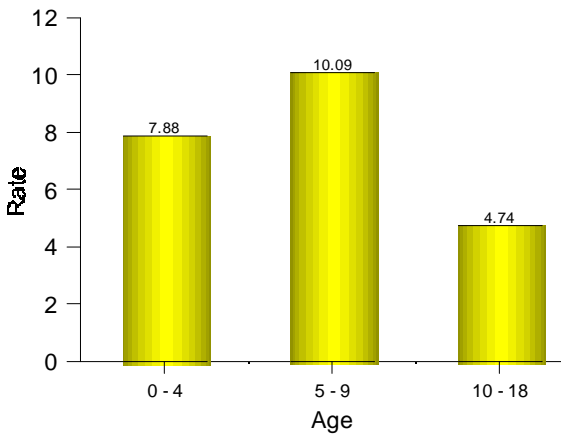
Rate by Sex



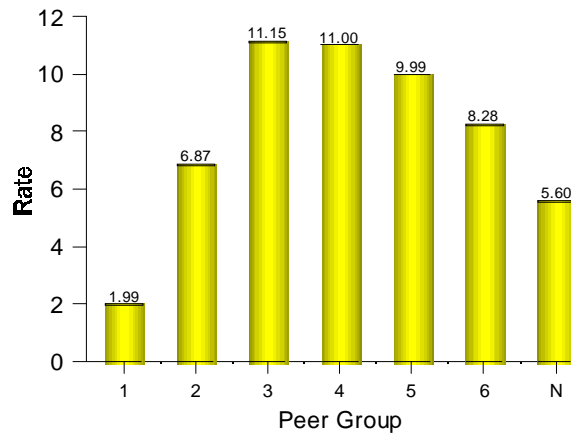
Rate by Hospital Size



Rate by Age Group



Rate by Peer Group



peer group key on page 34

Diabetes Long-term Complications

Long-term complications of diabetes include blindness, renal failure, and vascular disease leading to amputation. Onset of these complications can be postponed or prevented if patients control their blood glucose to near normal levels and receive early medical care for complications. Hospitals with high rates of diabetic complications may reveal a problem in access to diabetes services in the community. The overall rate of diabetes long-term complications in Utah continues to decline from 41.74 percent in 1992 to 27.95 percent in 1996.

Outcome:

Diagnosis of renal, eye, neurological, circulatory, or other complication due to diabetes

Population at risk:

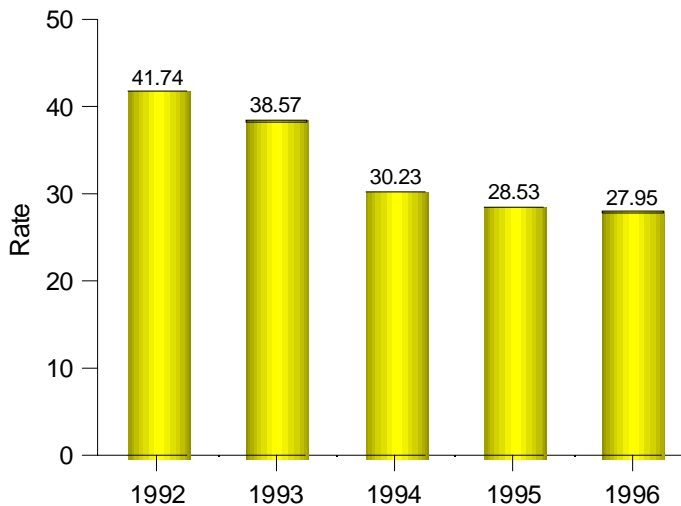
Diagnosis of diabetes; adults age 18+; exclude all maternal discharges (DRGs 370-375)

Rate:

Number of discharges with complications per 100 discharges

26

Trend of Rate in Utah
1992-1996



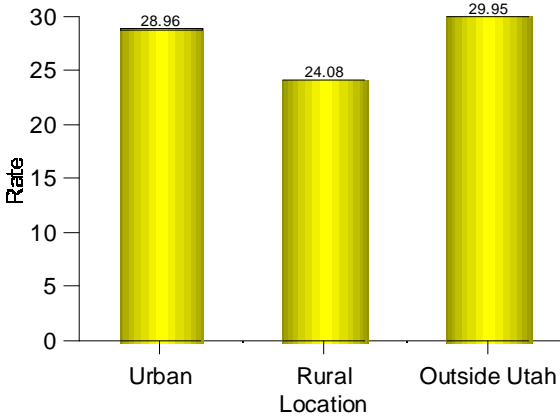
Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
125	1	University of Utah	982	347	35.34
121	1	LDS	1,387	522	37.64
124	2	St. Mark's	1,002	147	14.67
141	2	McKay-Dee	902	244	27.05
120	2	Salt Lake Regional	528	151	28.60
138	2	Utah Valley Regional	1,067	331	31.02
137	3	Mountain View	294	51	17.35
126	3	Pioneer Valley	333	58	17.42
107	3	Lakeview	232	42	18.10
108	3	Davis Hospital	473	96	20.30
119	3	Cottonwood	601	204	33.94
142	3	Ogden Regional	539	194	35.99
135	4	Orem Community	16	1	6.25
117	4	Jordan Valley	118	20	16.95
118	4	Alta View	213	41	19.25
143	4	PHC	500	166	33.20
136	4	American Fork	232	95	40.95
134	5	Ashley Valley	144	19	13.19
106	5	Castleview	193	31	16.06
103	5	Brigham City	60	13	21.67
112	5	Valley View	69	15	21.74
105	5	Logan Regional	358	82	22.91
140	5	Dixie Medical Center	553	166	30.02
111	6	Allen Memorial	34	2	5.88
102	6	Milford Valley	17	1	5.88
115	6	Fillmore Community	12	1	8.33
128	6	San Juan	44	5	11.36
104	6	Bear River Valley	35	4	11.43
114	6	Kane County	29	4	13.79
110	6	Garfield Memorial	27	4	14.82
129	6	Gunnison Valley	54	8	14.82
109	6	Uintah Basin	110	19	17.27
116	6	Delta Community	27	6	22.22
132	6	Sevier Valley	97	23	23.71
101	6	Beaver Valley	30	9	30.00
113	6	Central Valley	59	19	32.20
133	6	Tooele Valley	15	6	40.00
130	6	Sanpete Valley	34	14	41.18
139	6	Wasatch County	26	11	42.31
122	N	Primary Children's	21	0	0.00

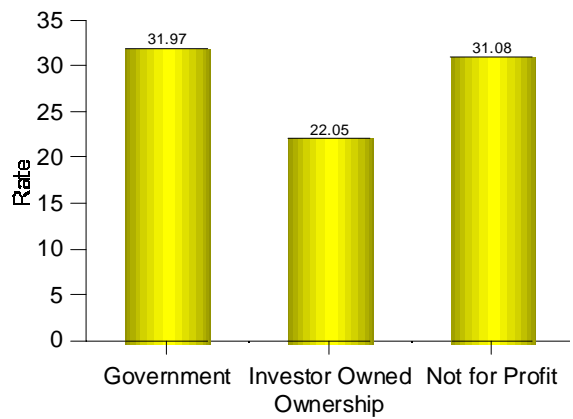
*peer group key on page 34 ** Closed 6-16-97

Diabetes Long Term Complications

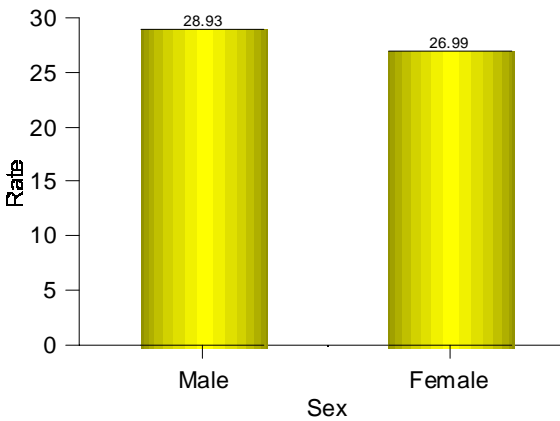
Rate by Patient Residence



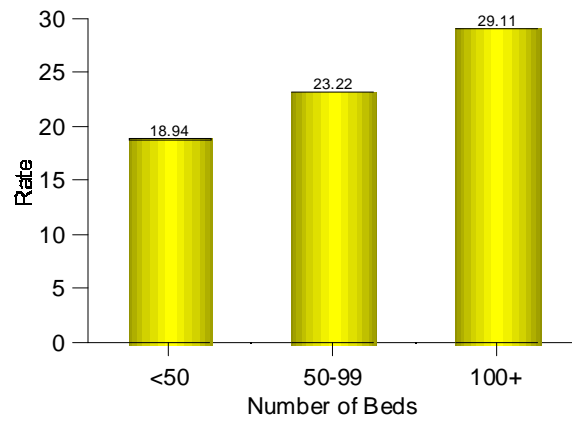
Rate by Ownership



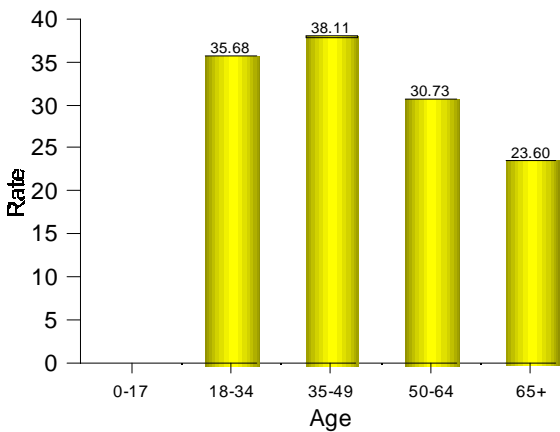
Rate by Sex



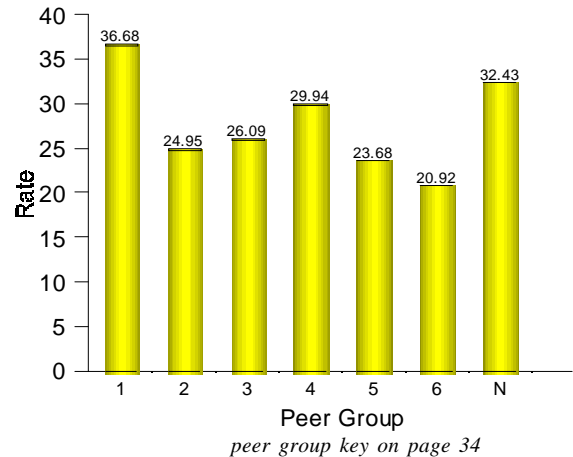
Rate by Hospital Size



Rate by Age Group



Rate by Peer Group



Cerebrovascular Disease - Non-elderly

Cerebrovascular disease, or stroke, is a major cause of death. Reduction of high blood pressure, cholesterol, and smoking can result in lower stroke-related morbidity and mortality. Hospitals with high rates of cerebrovascular disease among the non-elderly may reveal a need for targeted risk reduction in the community.

Population at risk:

Adults age 18-64; exclude deliveries (DRGs 370-375)

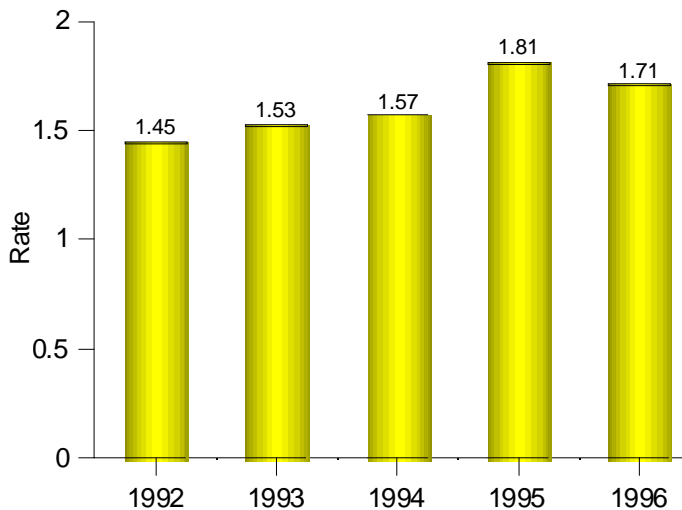
Outcome:

Diagnosis of intracranial hemorrhage, cerebral or precerebral arterial occlusion, cerebral thrombosis, cerebrovascular accident, cerebral atherosclerosis, cerebrovascular disease, late effects of cerebrovascular disease, or transient cerebral ischemia

Rate:

Number of discharges with transient ischemic attack (TIA) or cerebrovascular accident (CVA) per 100 discharges

Trend of Rate in Utah
1992-1996



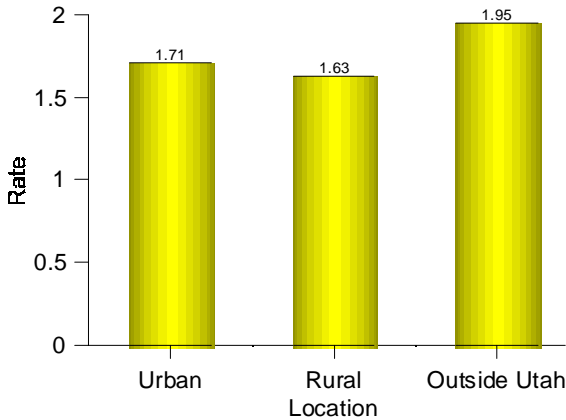
Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
121	1	LDS	8,584	147	1.71
125	1	University of Utah	8,885	227	2.56
124	2	St. Mark's	4,798	67	1.40
138	2	Utah Valley Regional	5,826	113	1.94
120	2	Salt Lake Regional	1,991	45	2.26
141	2	McKay-Dee	3,873	118	3.05
107	3	Lakeview	1,176	9	0.77
108	3	Davis Hospital	1,761	20	1.14
126	3	Pioneer Valley	1,586	19	1.20
142	3	Ogden Regional	2,448	35	1.43
119	3	Cottonwood	3,914	63	1.61
137	3	Mountain View	1,109	21	1.89
117	4	Jordan Valley	816	3	0.37
135	4	Orem Community	138	1	0.73
118	4	Alta View	1,578	13	0.82
136	4	American Fork	942	10	1.06
143	4	PHC	1,886	41	2.17
106	5	Castleview	802	3	0.37
103	5	Brigham City	456	3	0.66
134	5	Ashley Valley	398	3	0.75
105	5	Logan Regional	1,808	15	0.83
140	5	Dixie Medical Center	2,370	43	1.81
112	5	Valley View	347	9	2.59
139	6	Wasatch County	126	0	0.00
101	6	Beaver Valley	102	0	0.00
128	6	San Juan	107	0	0.00
116	6	Delta Community	71	0	0.00
114	6	Kane County	104	0	0.00
113	6	Central Valley	175	1	0.57
111	6	Allen Memorial	249	2	0.80
104	6	Bear River Valley	107	1	0.94
109	6	Uintah Basin	524	7	1.34
115	6	Fillmore Community	74	1	1.35
132	6	Sevier Valley	494	7	1.42
129	6	Gunnison Valley	191	3	1.57
102	6	Milford Valley	146	3	2.06
110	6	Garfield Memorial	142	3	2.11
130	6	Sanpete Valley	69	2	2.90
133	6	Tooele Valley	0	.	.
122	N	Primary Children's	321	5	1.56

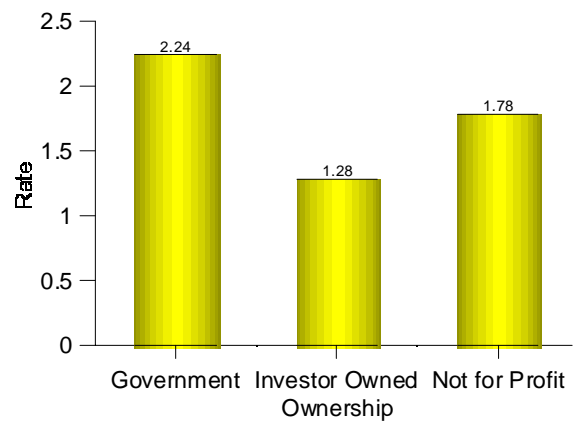
*peer group key on page 34 ** Closed 6-16-97

Cerebrovascular Disease Non-elderly

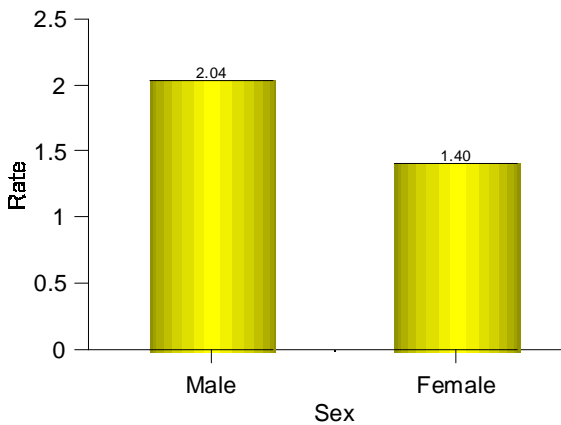
Rate by Patient Residence



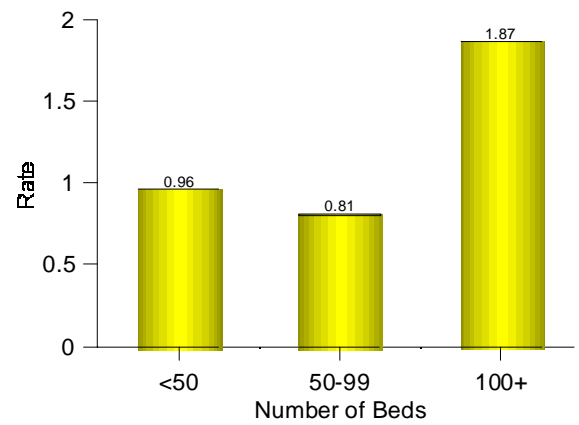
Rate by Ownership



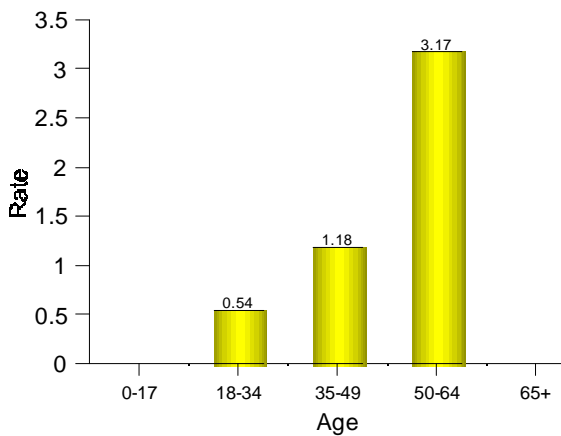
Rate by Sex



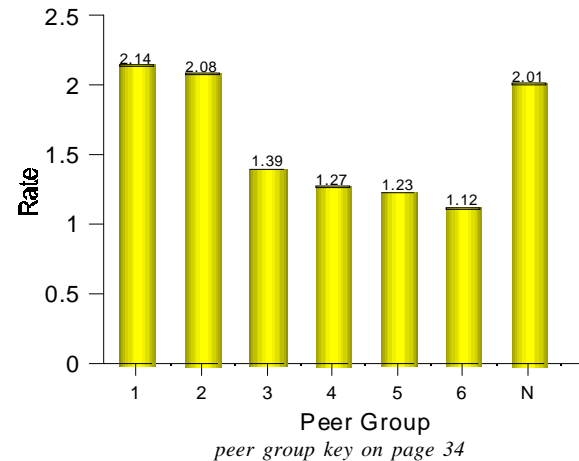
Rate by Hospital Size



Rate by Age Group



Rate by Peer Group



Diabetes Short-term Complications

Some acute complications of diabetes require emergency treatment. Such complications are more likely to occur in patients who are inadequately monitored or poorly educated about the management of diabetes. Hospitals with high rates of diabetic complications may reveal a problem in access to diabetes services in the community.

Population at risk:

Diagnosis of diabetes; adults age 18+; exclude deliveries (DRGs 370-375)

Outcome:

Diagnosis of uncontrolled diabetes, diabetic ketoacidosis, diabetes with hyperosmolar or unspecified coma

Rate:

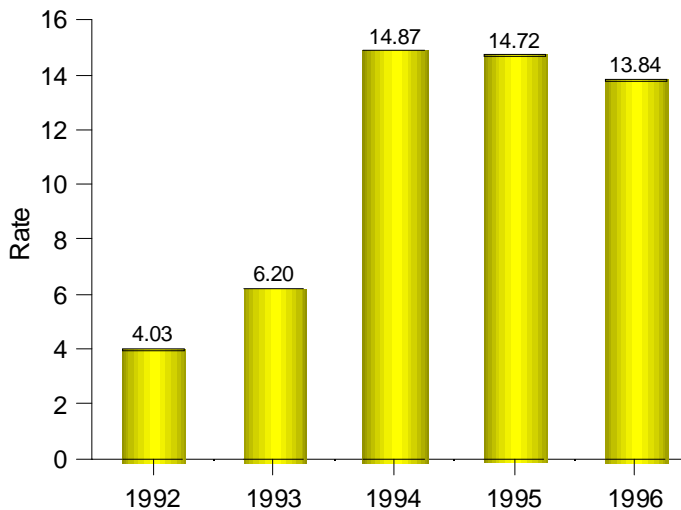
Number of discharges with complications per 100 discharges

Individual Hospital Rates, 1996

#	Peer*	Hospital	At Risk Pop	Outcome	Rate
121	1	LDS	1,387	89	6.42
125	1	University of Utah	982	99	10.08
120	2	Salt Lake Regional	528	35	6.63
138	2	Utah Valley Regional	1,067	79	7.40
124	2	St. Mark's	1,002	107	10.68
141	2	McKay-Dee	902	165	18.29
142	3	Ogden Regional	539	56	10.39
108	3	Davis Hospital	473	74	15.65
119	3	Cottonwood	601	116	19.30
137	5	Mountain View	294	62	21.09
126	3	Pioneer Valley	333	90	27.03
107	3	Lakeview	232	67	28.88
136	4	American Fork	232	13	5.60
143	4	PHC	500	51	10.20
118	4	Alta View	213	29	13.62
117	4	Jordan Valley	118	31	26.27
135	4	Orem Community	16	7	43.75
105	5	Logan Regional	358	33	9.22
103	5	Brigham City	60	6	10.00
112	5	Valley View	69	9	13.04
134	5	Ashley Valley	144	27	18.75
140	5	Dixie Medical Center	553	189	34.18
106	5	Castleview	193	84	43.52
101	6	Beaver Valley	30	0	0.00
129	6	Gunnison Valley	54	2	3.70
104	6	Bear River Valley	35	2	5.71
133	6	Tooele Valley	15	1	6.67
113	6	Central Valley	59	9	15.25
139	6	Wasatch County	26	4	15.39
115	6	Fillmore Community	12	2	16.67
114	6	Kane County	29	5	17.24
130	6	Sanpete Valley	34	6	17.65
128	6	San Juan	44	8	18.18
109	6	Uintah Basin	110	20	18.18
116	6	Delta Community	27	7	25.93
132	6	Sevier Valley	97	28	28.87
102	6	Milford Valley	17	5	29.41
110	6	Garfield Memorial	27	8	29.63
111	6	Allen Memorial	34	13	38.24
122	N	Primary Children's	21	14	66.67

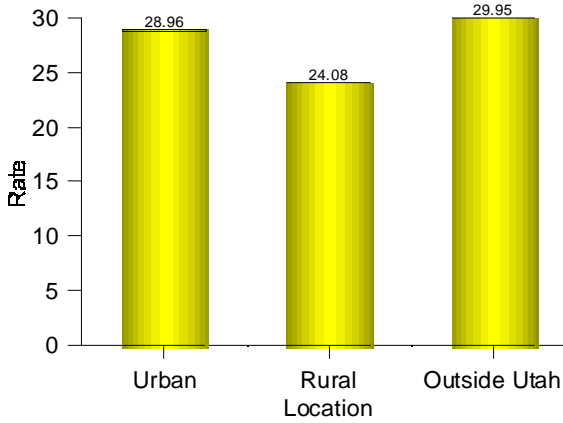
*peer group key on page 34 ** Closed 6-16-97

Trend of Rate in Utah
1992-1996

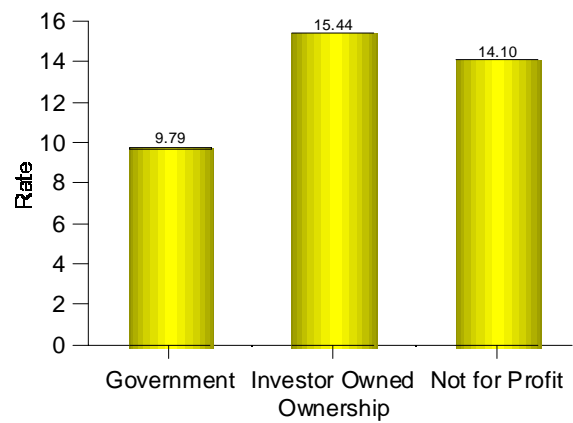


Diabetes Short Term Complications

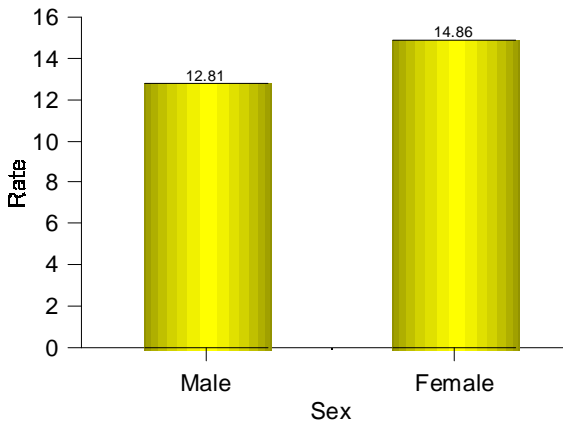
Rate by Patient Residence



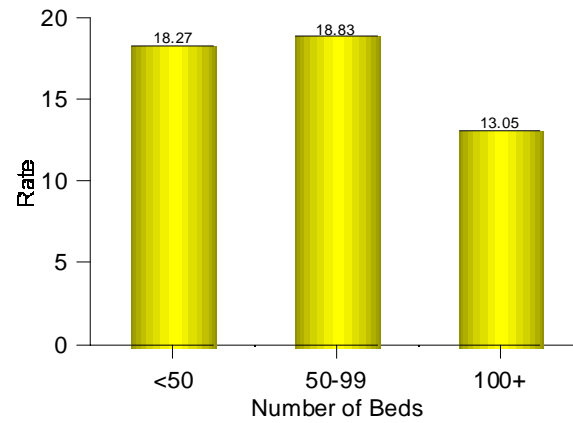
Rate by Ownership



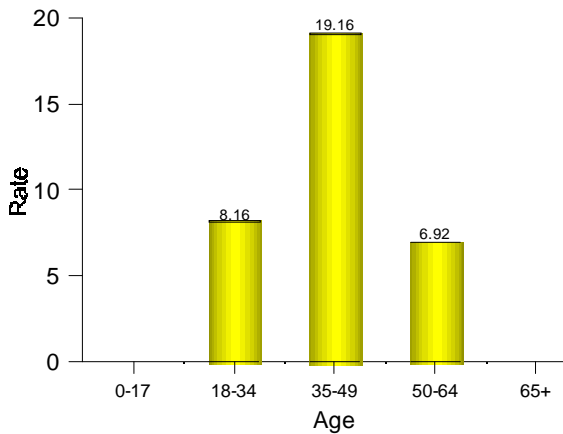
Rate by Sex



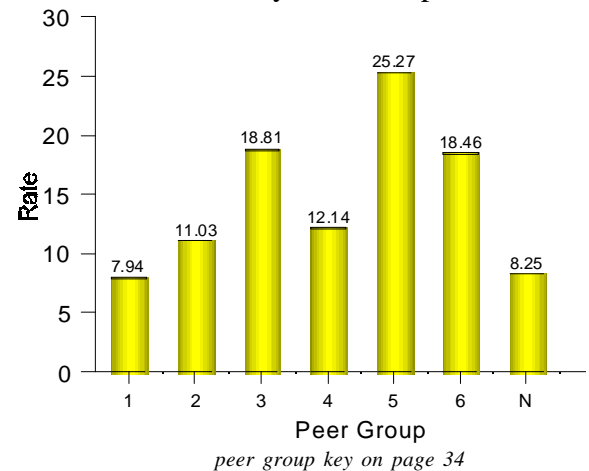
Rate by Hospital Size



Rate by Age Group



Rate by Peer Group



Appendix

DESCRIPTIONS OF PATIENT- AND HOSPITAL-RELATED CATEGORIES

In this report, each hospital quality indicator is presented in seven different charts. The first chart summarizes the overall statewide rate from 1992 to 1996. Other graphs represent the hospital quality indicator rates by patient and hospital-related categories.

PATIENT-RELATED CATEGORIES

Residence of Patient

- Urban areas: Weber, Davis, Salt Lake, and Utah counties.
- Rural areas: Box Elder, Cache, Rich, Morgan, Summit, Tooele, Wasatch, Daggett, Duchesne, Uintah, Juab, Millard, Sanpete, Piute, Wayne, Carbon, Emery, Grand, San Juan, Beaver, Garfield, Iron, Kane, and Washington counties.
- Outside Utah: Residents of other states or countries.

Sex

Some quality indicators are applicable only to either sex, such as maternity services and reproductive system-related procedures. For these quality indicators, the graph for this category is intentionally left blank.

Age Group

Quality indicators, such as pediatric asthma, maternity services, and service for elderly do not apply for all age groups; thus, graphs for those irrelevant age groups are omitted. Age groups vary according to particular service or outcome.

HOSPITAL-RELATED CATEGORIES

Ownership Status

- Government-owned
- Investor-owned (or for-profit)
- Not-for-profit

This is based on the ownership status of the hospital in 1996. The following table shows ownership of each hospital included in this report.

Hospital Size

- Less than 50 beds
- Between 50 to 99 beds
- More than 99 beds

Peer Group

Peer grouping of hospitals is based on location and case-mix index. See table for hospital peer groups.

- 1 = Urban, High CMI
- 2 = Urban, Upper Medium CMI
- 3 = Urban, Lower Medium CMI
- 4 = Urban, Low CMI
- 5 = Rural, High CMI
- 6 = Rural, Low CMI
- N = Specialty Hospital

Peer	Hospital Name	Case-mix	U/R*	Owner**	Beds
1	LDS	1.4475	U	N	520
1	University of Utah	1.3357	U	G	425
2	Salt Lake Regional	.9747	U	I	200
2	Utah Valley Regional	1.0635	U	N	395
2	St. Mark's	1.1155	U	I	306
2	McKay-Dee	1.0659	U	N	428
3	Ogden Regional	.8883	U	I	239
3	Davis Hospital	.7130	U	I	110
3	Cottonwood	.7741	U	N	213
3	Pioneer Valley	.8875	U	I	139
3	Mountain View	.8149	U	I	118
3	Lakeview	.9416	U	I	128
4	American Fork	.5710	U	N	72
4	PHC	.8017	U	I	125
4	Alta View	.6263	U	N	70
4	Jordan Valley	.5665	U	I	50
4	Orem Community	.4337	U	N	20
5	Logan Regional	.6477	R	N	148
5	Brigham City	.8371	R	I	56
5	Valley View	.6812	R	N	48
5	Ashley Valley	.6986	R	I	39
5	Dixie Medical Center	.8308	R	N	106
5	Castleview	.9461	R	I	84
6	Beaver Valley	.5328	R	G	36
6	Gunnison Valley	.5147	R	G	21
6	Bear River Valley	.5888	R	N	20
6	Tooele Valley	NA	R	G	38
6	Central Valley	.6238	R	N	31
6	Wasatch County	.5749	R	N	40
6	Fillmore Community	.5371	R	N	20
6	Kane County	.5698	R	G	33
6	Sanpete Valley	.5698	R	N	20
6	San Juan	.5427	R	G	36
6	Duchesne County	.6286	R	G	42
6	Delta Community	.5608	R	N	20
6	Sevier Valley	.6262	R	N	42
6	Milford Valley	.4786	R	G	34
6	Garfield Memorial	.5426	R	N	20
6	Allen Memorial	.5736	R	G	38
N***	Primary Children's	1.4717	U	N	232

*U=Urban, R=Rural

**G= Government, I=Investor, N=Not for profit

*** Peer group N also includes specialty hospitals and the VA Medical Center

Peer grouping is based on location and case-mix