Comparison of Health Care Outcomes in Nebraska for 2008 to corresponding National Statistics

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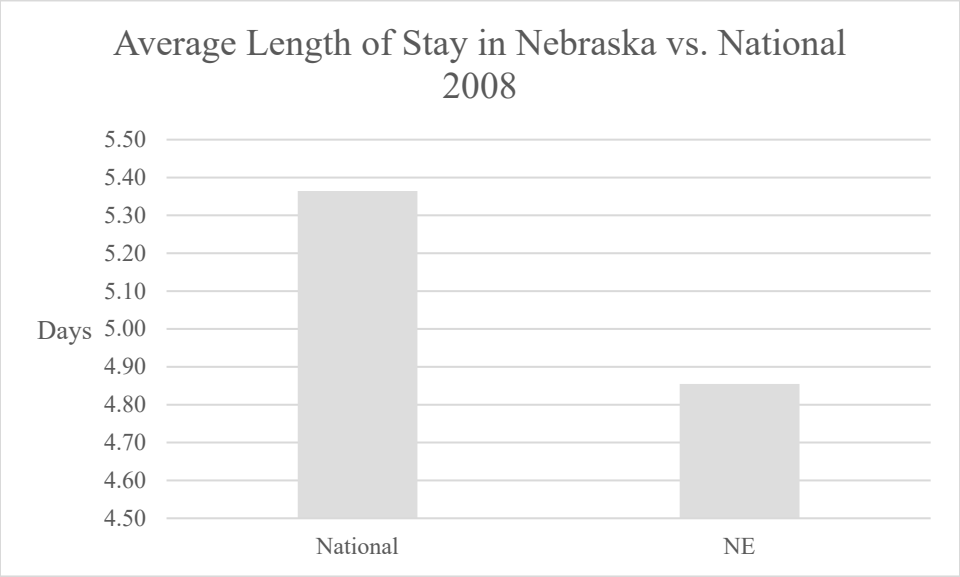
Introduction

In the vast prairies of the United States sits a State known for its pioneering past. This State is Nebraska, with a population of 1.92 million. In addition to its marvelous landscape, the state also provides useful health services. Compared to our Nation, Nebraska's residents stay in the hospital less as well as pay less. (KFF, 2017) From the role of a financial analyst, I will be using data from 2008 to analyze how Nebraska can reduce the cost of Healthcare of its residents as well as the length of stay in hospitals. The purpose of this report is analysis average length of hospital visits, cost per discharge, cost per day, and top 5 diagnoses in the State of Nebraska compared to the Nation. To complete this report, the tools that will be used is Access to create data quires and excel in producing visuals.

Comparison of State Average Statistic to National Averages

Average Length of Stay

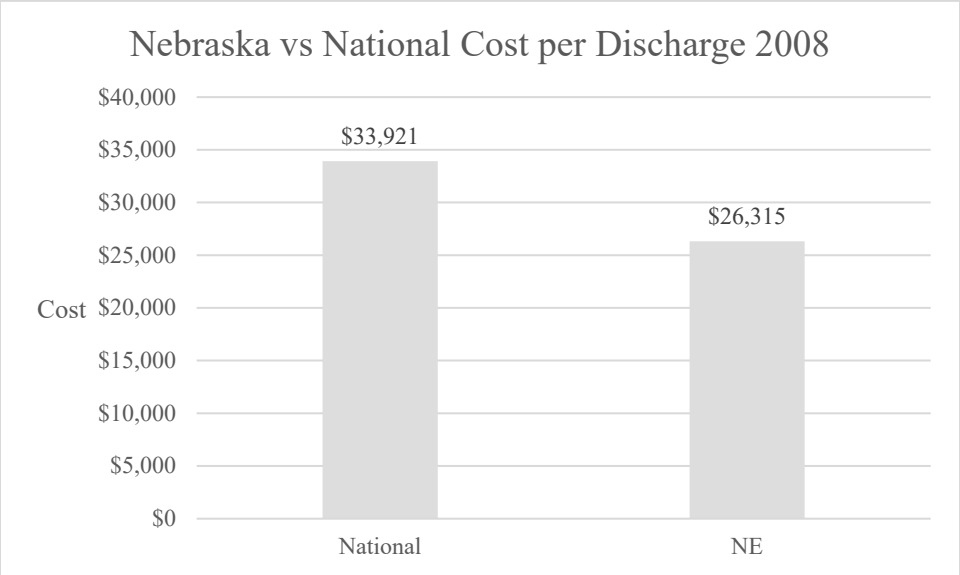
Year	State	Discharges	Cost	Days	ALOS	% Difference
2008	National	39,443,048	$942,313,224,634.84	181,258,949	5.36	10.50%
2008	NE	186,191	$3,316,201,516.09	769,105	4.85	



The average length of stay is defined as the average number of days patients stay in the hospital. There is a 10.5% difference in the average length of stay of the Nation and the State of Nebraska. On average, Nebraska has a shorter period of stay than the Nation. A lower average length of stay means a better health outcome. With a more moderate length of stay, there is less of a chance that a patient will get an infection. (Baek, et al., 2018) Since Nebraska has a lower average length of stay, its residents are less likely to have health complications at the hospital when compared to the Nation. From a financial analysis point of view, I would recommend Nebraska continue treating the patient promptly to reduce the average length of stay, which in the long run reduces expenditures spent treating complications.

Cost Per Discharge

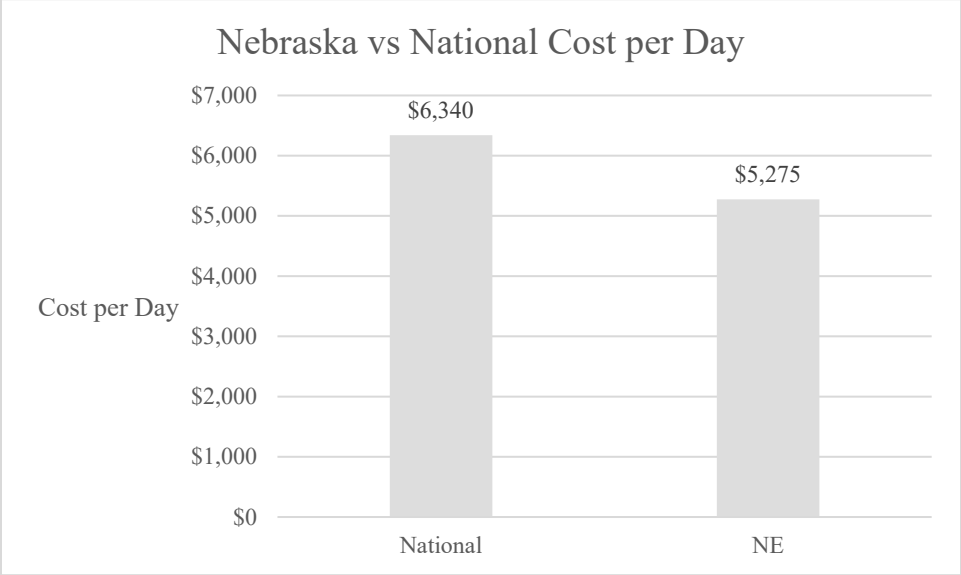
Year	State	Discharges	Cost	Days	Cost Per Discharge	% Difference
2008	National	39,443,048	$942,313,224,635	181,258,949	$33,921	28.90%
2008	NE	186,191	$3,316,201,516	769,105	$26,315	



Cost per discharge is defined as the amount a person spends at a hospital before they are discharged. There is a 28.9% percent difference in the cost per discharge of the state of Nebraska and the Nation. The difference between the Nation cost per discharge and Nebraska is roughly 7 thousand. Lower cost per discharge could mean that a clinic is cutting down on wasteful spending. To reduce wasteful spending, a clinic needs better care coordination. In addition to reducing cost, better care coordination can improve health outcomes and patient experiences. (Khullar, 2018) Since Nebraska has a lower cost per discharge, the state arguably has better care coordination than the National Average. From a Financial Analysis point of view, I would recommend Nebraska continue to build their care coordination to reduce the cost for the patient.

Cost Per Day

Year	State	Discharges	Cost	Days	Cost per Day	% Difference
2008	National	39,443,048	$942,313,224,635	181,258,949	$6,340	20.20%
2008	NE	186,191	$3,316,201,516	769,105	$5,275	

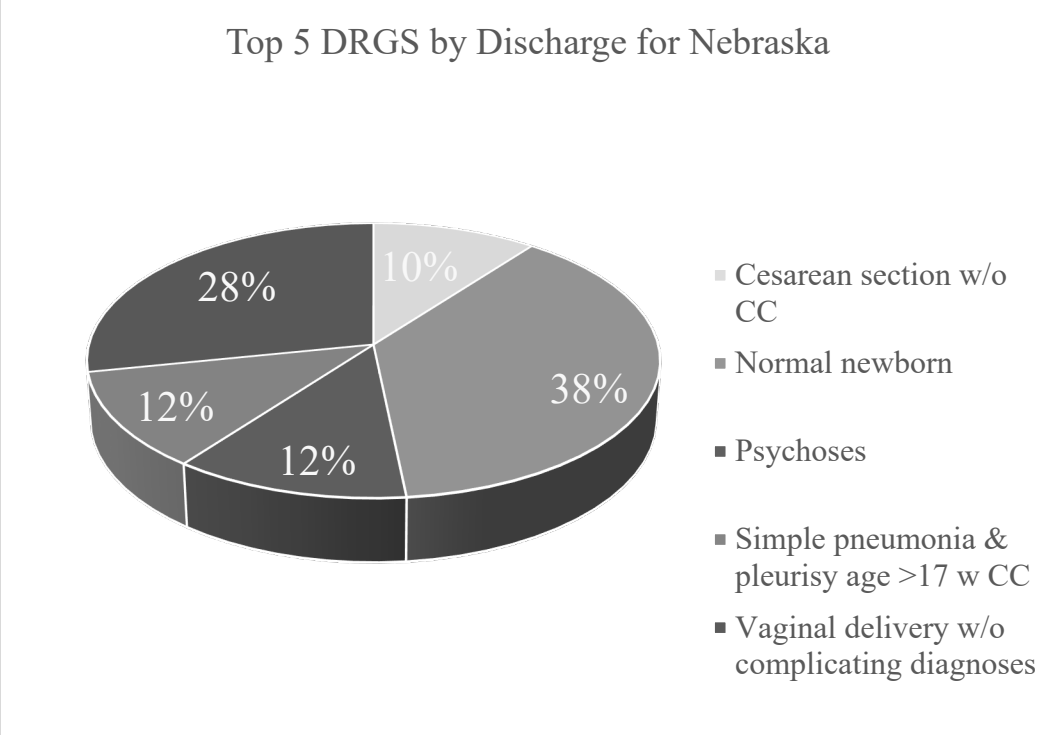


Cost per day is defined as the amount a patient spends when they stay 24 hours in a hospital. The difference between the National Average and the State of Nebraska is 20.2%. To expand, the difference is roughly 1 thousand dollars. Similar to the benefits of a low cost per discharge, lower cost per day can also mean there is proper care coordination. In addition, decreases length of stay and overutilization can decrease the cost per day. (Health Catalyst, 2018) Since Nebraska has a lower cost per day, Nebraska will most likely have better health outcomes when compared to the Nation. Evidence that supports better health outcomes is shown in the State's life expectancy. Nebraska has a higher life expectancy by one year than the Nation's average of 79 years. (KFF, 2019) As for the recommendation for cost per discharge, I would also recommend Nebraska to look at ways to reduce overutilization to reduce the cost for patients.

Analysis of Top DRGs by Discharge

Top Five DRGs By Discharges for the State

Year	State	Code	Discharges	Days	Diagnosis Related Group Description
2008	NE	391	17526	37,041	Normal newborn
2008	NE	373	13002	27,643	Vaginal delivery w/o complicating diagnoses
2008	NE	430	5517	40,025	Psychoses
2008	NE	89	5311	25,294	Simple pneumonia & pleurisy age >17 w CC
2008	NE	371	4792	15,864	Cesarean section w/o CC

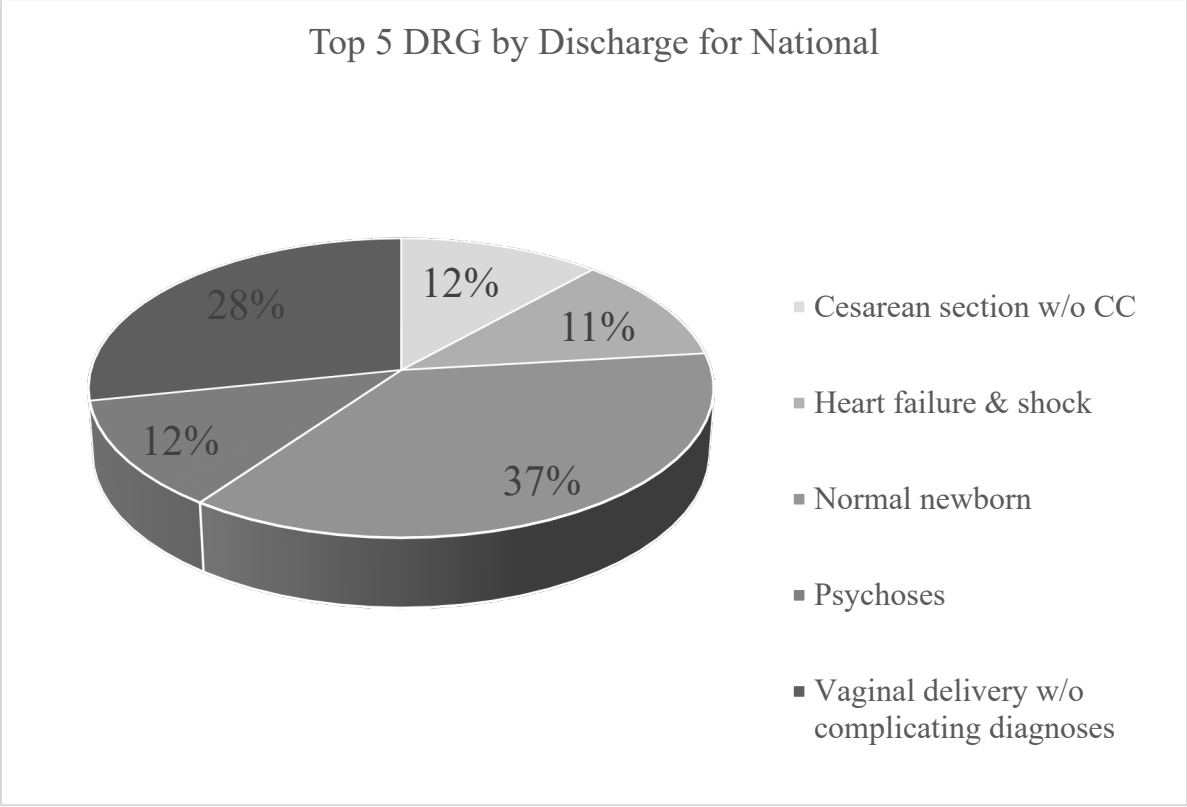


The top 5 DRGs by total discharge for Nebraska are Normal Newborn, Vaginal delivery, Psychoses, Pneumonia, and Cesarean Section, respectively. Three of these DRGs have to do with birth. It is no surprise that birth diagnosis is in the State's top five DRG's since the State's birthrate is 72 babies per 1,000 women, as compared with the national average of 62. (March of Dimes, 2016) Psychosis and Pneumonia typically affect the younger population. It is also no

surprise that these ended up on the top 5 DRGs since more than half of Nebraska's population is under 65 and over 14. (U.S Census) As a financial analysis I would recommend that the State of Nebraska invest more money in Obstetrics and Gynecology since most of the DRGs are birth-related. In addition, I would ask the State to look into mental health services to prevent psychosis and suicides, which would cost the State even more to treat. Lastly., commend that the State invests in pediatric care to keep the youth and adults healthy since they are a half of the population.

Top Five DRGs By Discharges at the National Level

Year	State	Code	Discharges	Days	Diagnosis Related Group Description
2008	National	391	3,178,034	6,665,974	Normal newborn
2008	National	373	2,443,411	5,134,666	Vaginal delivery w/o complicating diagnoses
2008	National	430	1,019,821	8,798,659	Psychoses
2008	National	371	1,012,445	3,379,336	Cesarean section w/o CC
2008	National	127	991,057	4,845,759	Heart failure & shock



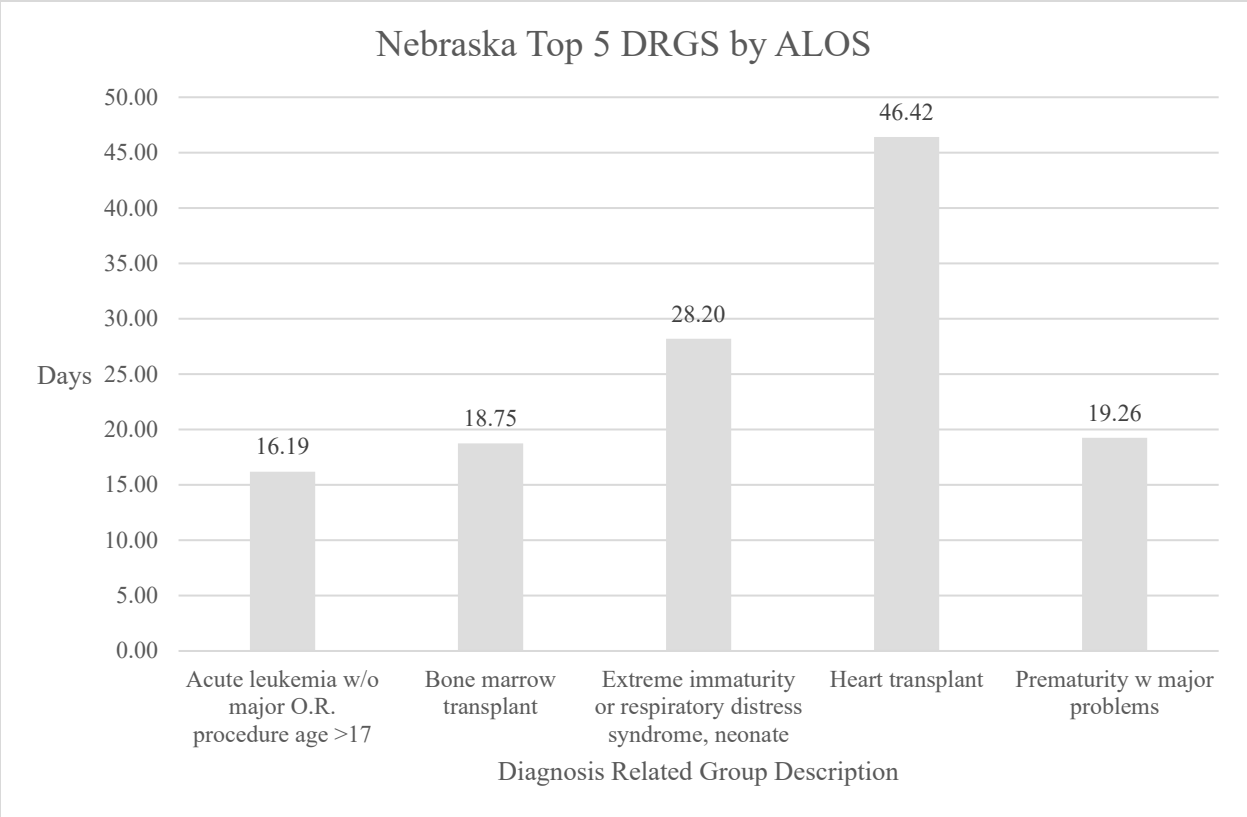
The top 5 DRGs by total discharge nationally are Normal newborn, Vaginal delivery, Psychoses, Cesarean Section, and Heart Failure, respectively. Similar to Nebraska's, at the National level, Normal Newborn, Vaginal delivery, and Cesarean section are in the top 5 DRGs. One explanation for births being in the top 5 DRGs is that babies are continually being born in

the United States. In addition, unlike other conditions, births cannot be dealt with preventive care and are something one needs to go to the hospital for. Another thing that is in the top 5 DRGs that is similar to the state of Nebraska is Psychoses. This can be explained by how most mental illness starts developing in the young population starting at age 14. (American Psychiatric Association) A third of the US population is over the age of 14, which means there are more people to develop mental health issues. The 5th DRGs is Heart failure. Heart failures, although they are preventable, they are often unpredictable and requires hospitalization. This might explain why Heart Failures ended up in the DRGs. As a financial analysis, I would recommend that the Nation invests in Obstetrics and Gynecology since birth-related diagnosis is in the top 5 DRGs. By reducing complications in this area, there would be a less economic burden in the long run. Also, I would recommend increasing preventive care for heart disease and mental health since these cost 90% of the nation's health expenditures. (CDC, 2019)

Analysis of Top DRGs by ALOS

Top Five DRGs By ALOS for the State

Year	State	Code	Discharges	Days	ALOS	Diagnosis Related Group Description
2008	NE	103	12	557	46	Heart transplant
2008	NE	386	467	13,169	28	Extreme immaturity or respiratory distress syndrome, neonate
2008	NE	387	313	6,027	19	Prematurity w major problems
2008	NE	481	60	1,125	19	Bone marrow transplant
2008	NE	473	94	1,522	16	Acute leukemia w/o major O.R. procedure age >17

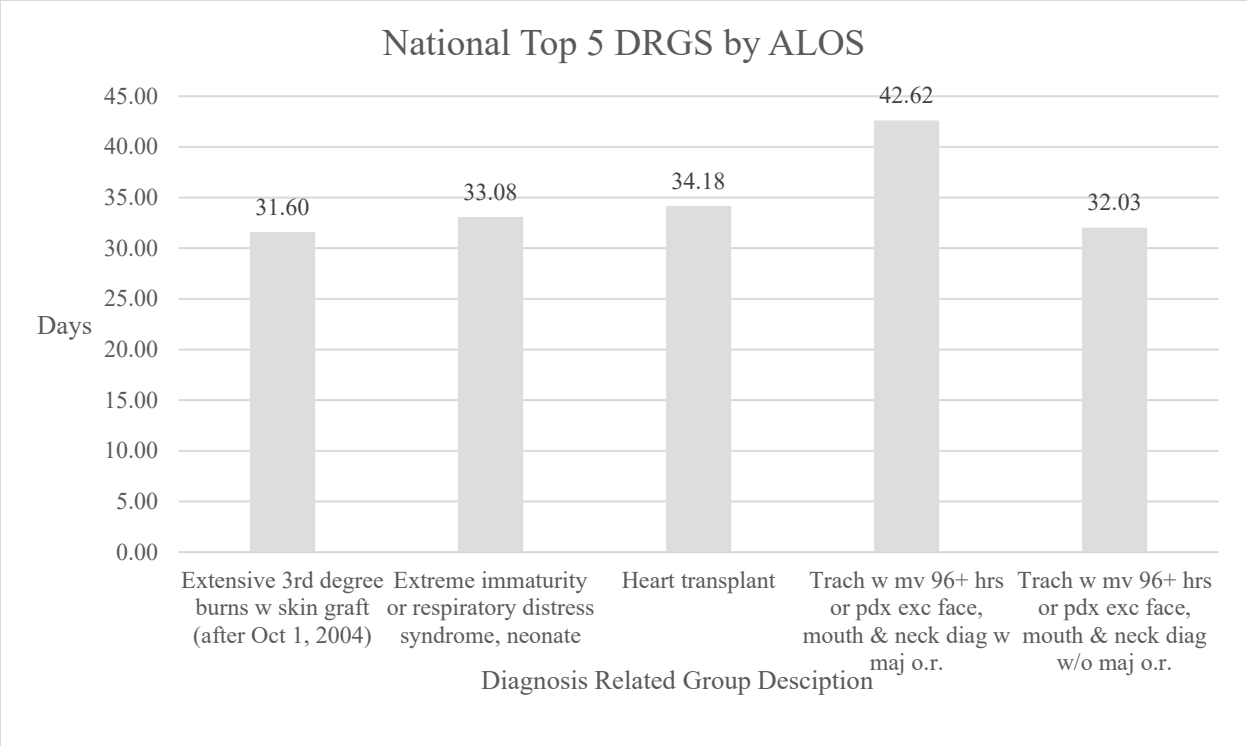


The top five DRGs by ALOS for Nebraska are Heart Transplant, Respiratory Stress syndrome, Prematurity, Bone Marrow transplant, and Acute leukemia, respectively. A heart transplant is the highest ALOS. This is probably explained by the high chance of complications after the procedure. These risks include rejection of the donor's heart, artery problem, and

medication side effects, all of which need to be closely monitored. (Mayo Clinic, 2019) Which explains why these patients stay in the hospital the longest. The 2nd and 3rd top DRGs by ALOS is respiratory distress syndrome and prematurity problems. This could be explained by the number of complications involved in pregnancy and delivery. Since babies are frail, they have a higher risk of complications and need to be monitored, which supports why the ALOS for these diagnoses are high. The last two DRGs are bone marrow transplant and acute leukemia, which are complementary to each other. Acute leukemia requires a blood transfusion, chemotherapy, and bone marrow transplant. (Cleveland Clinic) These processes require a patient to stay in the hospital to recover and be monitored to see if their condition improves. From a finical analysis perspective, I would recommend Nebraska invest in prenatal care. Prenatal care helps eliminate birth defects and risky pregnancy that are two of the top DRGs. Also, I would suggest that the state looks into preventative care for heart disease since heart disease could be prevented. Complications with heart conditions and birth defects can cost the hospital thousands in the long run, so it is best to avoid them. As for acute leukemia, the treatment for this is a bone marrow transplant. However, matches for donors are hard to find. Therefore, the state of Nebraska should promote bone marrow donation programs to increase the chance that a patient matches with a donor.

Top Five DRGs By ALOS at the National Level

Year	State	Code	Discharges	Days	ALOS	Diagnosis Related Group Description
2008	National	541	60,631	2,583,798	42.62	Trach w mv 96+ hrs or pdx exc face, mouth & neck diag w maj o.r.
2008	National	103	2,760	94,330	34.18	Heart transplant
2008	National	386	92,192	3,050,062	33.08	Extreme immaturity or respiratory distress syndrome, neonate
2008	National	542	47,607	1,524,718	32.03	Trach w mv 96+ hrs or pdx exc face, mouth & neck diag w/o maj o.r.
2008	National	504	1,000	31,607	31.60	Extensive 3rd degree burns w skin graft (after Oct 1, 2004)



The top 5 DRGs by ALOS at the national level is tracheostomy, heart transplant, respiratory stress, and skin grafts. Tracheostomy and heart transplants are the top 5 DRGs Tracheostomy is used as a type of assisted breathing for patients with heart or respiratory failure, while a heart transplant is used for patients whose heart does not function anymore. In the United States, 14% of the population smoke, which could increase the risk of heart disease and

respiratory problems. (CDC, 2019) In addition, nearly half of the adults in the United States have high blood pressure, which would contribute to heart disease. (American Heart Association, 2018) Both smoking and hypertension increase the risk of respiratory and heart failure, which takes a lot of time to monitor and treat, which might explain why tracheostomy and heart transplants are in the top 5 DRGs by ALOS. Another in the high 5 DRGs birth defects. In the United States, 120,000 babies are born with a birth defect each year, that's 1 out of 33 babies. (CDC, 2018) These infants with birth defects require around the clock monitoring due to their high mortality rate, which uses a lot of hospital time. The last thing on the top 5 DRGs for the Nation is burn grafts. In the United States, there are 1.1 million burn injuries each year (American Burn Association, 2002). These burns require medical attention since they could lead to further serious complications. To treat these burns, patients will have to spend days in the hospital to recover and properly heal. As a financial analysis, I would recommend that the Nation invests in preventative care for heart conditions. Heart conditions are typically caused by poor diet and exercise. By promoting a healthy diet and proper exercise, this could eliminate the risk of heart disease that will be costly to treat down the line. As for birth defects, like recommended to the state of Nebraska, I would also recommend the Nation invest in prenatal to lower the risk of birth defects. With burns, I would recommend the Nation invest in fire safety education. Fire safety education prevents people from getting hurt by fire in the first place, which eliminates extended stays and treatment in hospitals.

Conclusion

In conclusion, I discovered that the State of Nebraska spends less than the United States on Healthcare and as a lower average length of stay in hospitals. This could be due to improved care coordination in hospitals and preventing overutilization. As a financial analysis, is it essential to see where money is being spent and where it is being lost. Although the hospital makes more money from treating patients longer, this increases complications for patients. Besides, that money is being wasted can could be used to treat other patients. It is best to prevent patients from ending up in hospitals in the first place because it will cost more to address them in a hospital than an outpatient care facility. To do this, I would recommend the state to encourage patients to get preventative care and go to their annual checkups. To make sure patients go to their yearly checkups, I would suggest that reminders be sent to the patients that they are due for a checkup. Also, Nebraska should have a specific preventive program. After taking a look at the data, the preventative care that Nebraska needs the most is mental health programs, heart disease programs, and prenatal care programs. For mental health, Nebraska should provide consulting services to those in need, as well as a substance abuse program. As for heart disease, they should have plans to encourage healthy eating and exercise. As for prenatal programs, they should have clinics where women can check up on their reproductive health. All of these preventive services combined will keep the residents of Nebraska healthy and allow them to spend less time in hospitals.

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