

Geographic Information Systems for Public Policy, Planning & Development
Research on LAC hospitals system and Unihealth Foundation

Introduction

Hospitals are one of the most important resources for keeping individuals' and communities' health and welfare. Lack of hospitals could be the cause of social instability since when medical resource are not accessible for people who's in need of treatment, pain and even death may occur. In this case, finding out what factors may be related to the distribution of hospitals is meaningful.

Also, Unihealth Foundation which is a private foundation who contribute itself in improving local hospitals becomes a client for Capstone Project of MPA program. Numerous records of the projects they have granted are exposed to me. In this case, it would be interesting to see how a local foundation is helping communities getting better and healthier.

This study is going to answer following three questions:

1. What is the distribution of hospitals in the Los Angeles County?
2. Are population and income of the community related to the distribution of hospitals?
3. How does Unihealth Foundation help local hospitals.

Data Source and Methodology

The data of Health District and the list of hospitals which includes the name and address are all comes from Los Angeles County GIS Data Portal. Health District is what this report used to divide Los Angeles County into different communities. The locations of hospitals are already geocoded by Los Angeles County GIS Portal.

Also, the income and population of each parcel comes from Los Angeles County GIS Data Portal.

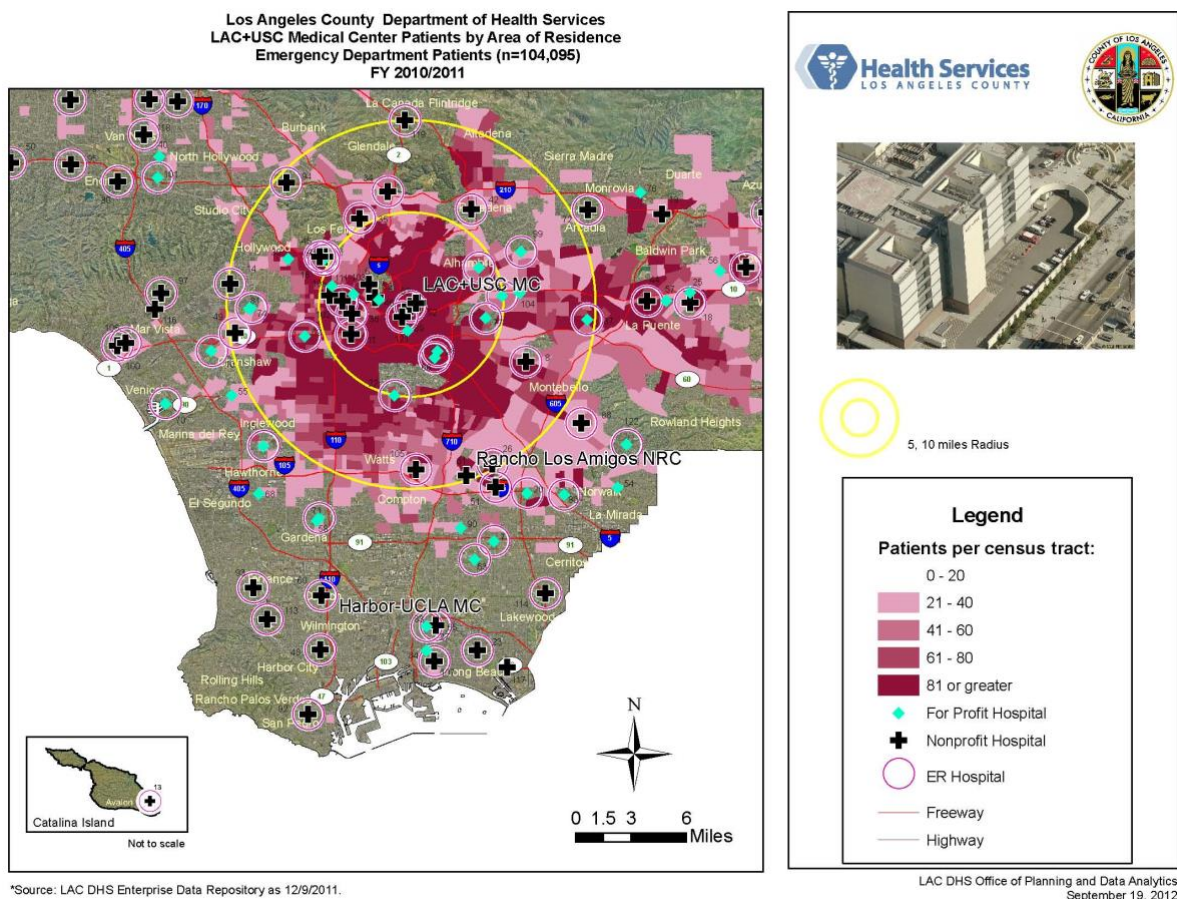
In this case, for Exhibit 1.2 and 1.3, I get one layer of income/population of each parcel, one layer of Health District and one layer of hospitals' location as pointed.

The records of Unihealth Foundation past grantees were delivered from Unihealth Foundation to me by Excel including the organizations' name, address, the projects'

name, grant amount and description. Using ArcMap, I join the Excel from Unihealth Foundation with the hospital list from Los Angeles County GIS Data Portal to select the hospitals from all organizations in the Excel and target the location of them. After then, I exported the joined table from ArcMap to Excel and use pivot table to add up the total grant amount of each district. In this case, I get one layer of the Health District, one layer of the total grant amount of each district and one layer of the hospitals that Unihealth Foundation has granted.

Hospitals' distribution

Exhibit 1.1¹



*Source: LAC DHS Enterprise Data Repository as 12/9/2011.

According to exhibit 1 which is the map from Los Angeles County GIS Data Analyst, West Valley, Central and south of Los Angeles County have most widely

¹ LOS ANGELES COUNTY HOSPITALS 2011, <https://egis3.lacounty.gov/dataportal/2013/04/12/los-angeles-county-hospitals-2011/>

distributed hospitals while Antelope Valley which locates at the north of Los Angeles County has the least amount of hospitals.

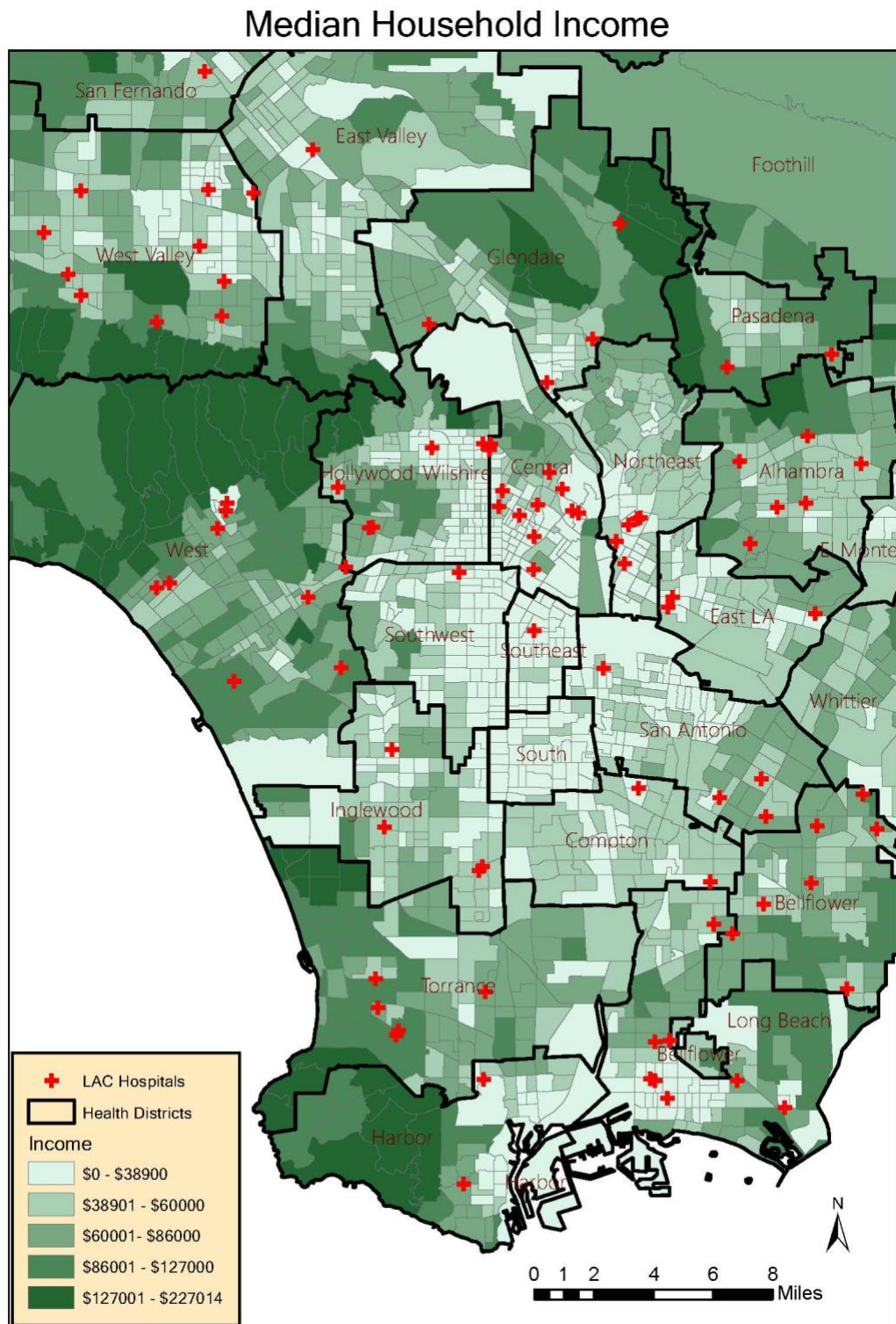
Generally, the hospitals are gathered in the central of Los Angeles County where the patients per tract is more intensive. The connection is positive since the more hospitals, the more available beds for patients. In this case, more hospitals in the area, to some extent, would mean more patients. A possible reason that Downtown LA are having many hospitals may be that it is also the central of transportation and education. It's convenient for patients to go there and there are also many medical research centers. In this case, there are more hospitals.

Some locations are not the case, for example, the South of Los Angeles County, as shown in map where under the 91 Freeway, has more than 10 for profit and nonprofit hospitals while the patients per census tract are mostly under 20. A possible reason is that the emergency beds per hospitals in the south of Los Angeles County are less than other areas.

To further explore what is related to the hospitals' location, this study research the income and population of each Health District. Health Districts are used primarily by the Department of Public Health to plan and manage health service delivery across the County.²

² Los Angeles County GIS Data Portal

Exhibit 1.2



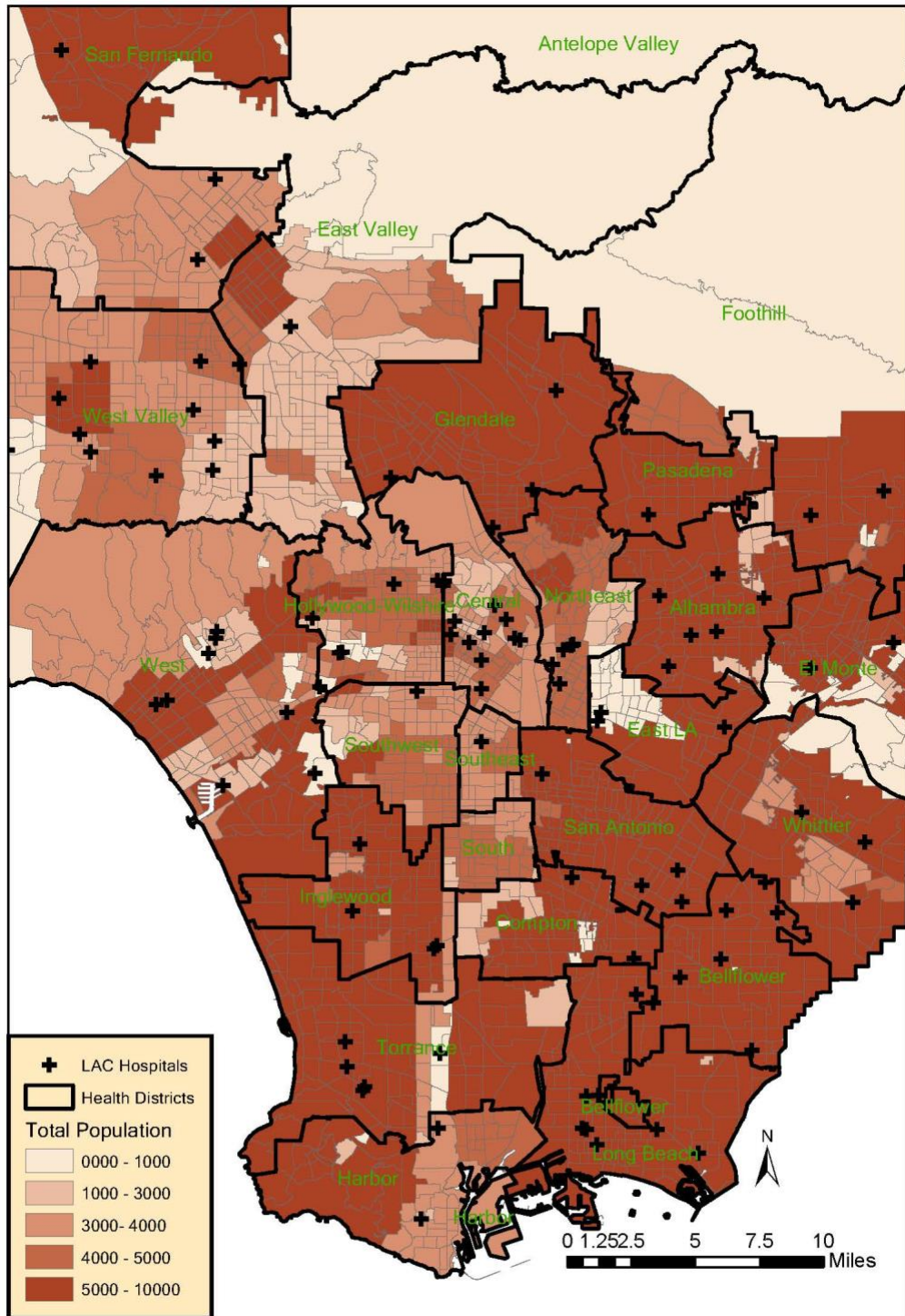
The Exhibit 1.2 shows Median household income in the Health District. The deeper the color is, the higher the Median household income would be. The symbol shows the location of hospitals in the list create by the Office of Planning and Data Analyst which generates hospitals and clinics. The income of an area does, to some

extent, relate to the amount of hospitals. Districts where has a relatively higher income tend to have more hospitals. For example, the west valley and west on the west coast and Pomona on the east are having more hospitals than other areas while the median household income is relatively higher. However, it is not always the case. For example, the Central of Los Angeles where gathered the most amount hospitals does not has the highest income. To the opposite, the median household income of Central is in a relatively low level. One reason may because the Central area is mostly commercial. People working in the Downtown typically do not live there at night. In this case, although the median household income is lower, people working there may make huge amount of fortune.

Generally, the more people in the area, the area are likely to have more hospitals since there are more population to take care of. The Exhibit 1.3 could be a prove for the positive connection.

Exhibit 1.3

Population



Hospitals are playing great roles in improving the health of local community and individuals. In this case, private and local foundations whose initiative is health are making grants to build better and stronger hospitals. Unihealth is one of them

Unihealth Foundation

The UniHealth Foundation is a private, nonprofit organization located in Los Angeles, California. In 1998, it was converted from a healthcare system into a grantmaking entity with an endowment of \$300 million.³ Its mission is to fund and facilitate activities that positively impact the health and wellness of individuals and communities. Specifically, its grantmaking framework addresses needs within the areas of population & community health, healthcare delivery systems, and healthcare workforce.

It funds innovative, health and wellness initiatives primarily in the Los Angeles and Orange County regions. Also, various organizations like NGOs, research centers, hospitals or clinics were funded. UniHealth issues grants through either the hospital fund or the general-purpose fund. The hospital fund is specifically awarded to nonprofit hospitals or other qualified nonprofit organizations that deliver healthcare services. The general-purpose fund allows for a broader scope of projects that still pertain to an area of health. Altogether, UniHealth gives approximately \$13-14 million dollars each fiscal year to 8-10 grantees. These grantees are selected after their initial applications undergo several screening assessments and their proposals are ultimately reviewed and approved by the Board of Directors.

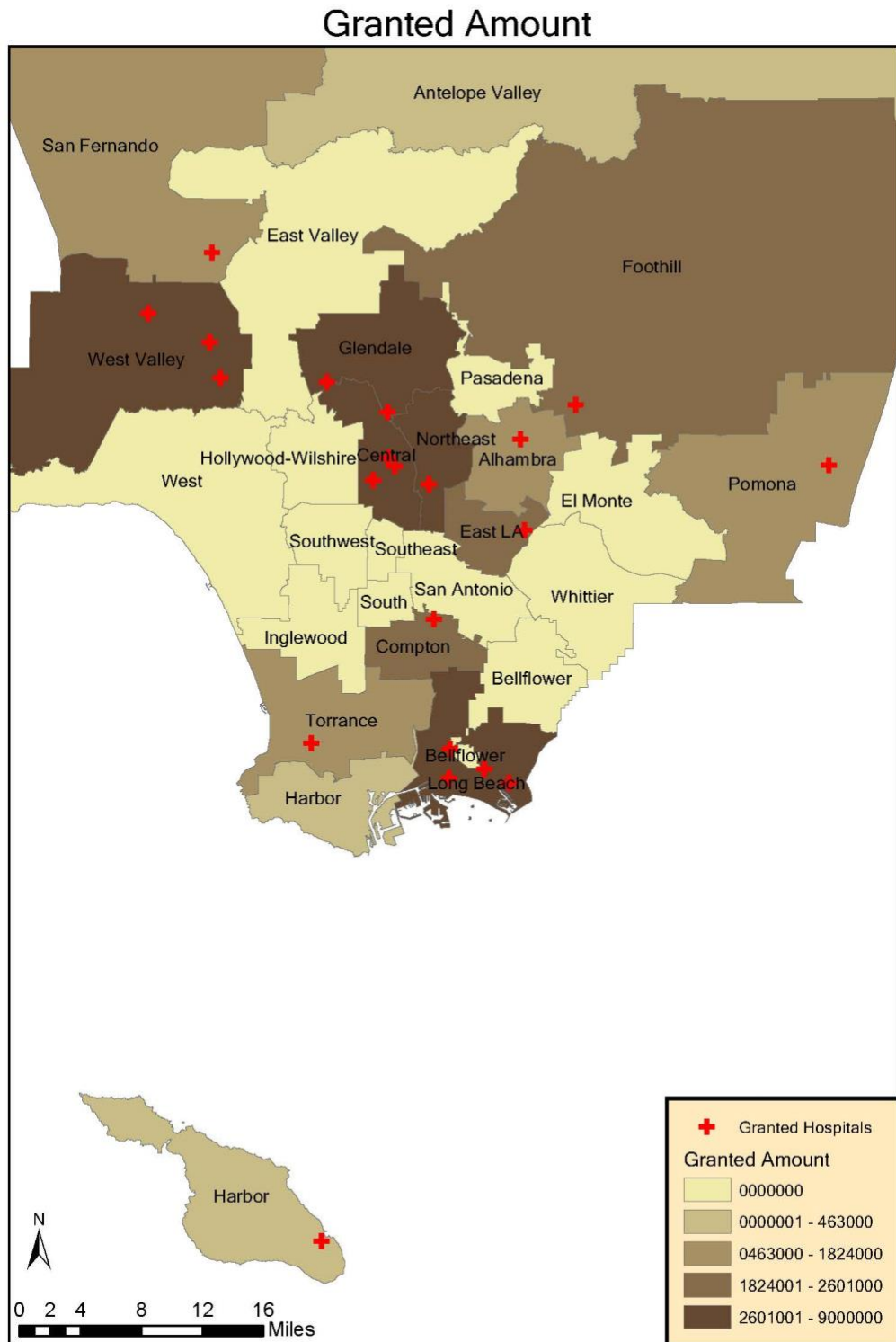
Although the projects that Unihealth Foundation granted are diverse, there are several themes of projects that Unihealth have been granted over years such as palliative care, obesity, children health and nurses training. For example, in 2014, Unihealth granted Adventist Health Glendale 604 thousand dollars for community engagement to reduce obesity risk.⁴

This study would focus on distribution of Unihealth Foundation to the local hospital system which includes hospitals and clinics in the Los Angeles County.

³ UniHealth Foundation website. <https://www.unihealthfoundation.org>

⁴ Unihealth Foundation Closed Grant Report.

Exhibit 2.1



The symbols on the map indicates the hospitals that have received grants from Unihealth Foundation who is also on the list created by the Office of Planning and Data Analyst as mentioned before.

Funding hospitals in the Los Angeles County is an important measure to achieve the Unihealth Foundation's mission of improve the health and wellness of individuals and communities. For past 20 years, Unihealth Foundation has granted 107 projects to 22 different hospitals with a total amount of 32 million.⁵ Northbridge Hospital Medical Center which is located on the West valley has received 12 times of grants in a total amount of 4.33 million which is the most time of grants and the largest amount that Unihealth Foundation has ever given to a hospital. The projects are diverse. For example, Unihealth Foundation has granted Northbridge \$0.86 million for educating its' nurses to improve the patient care delivery system, \$1.05 million for supporting the Enhanced Palliative Interdisciplinary Care program which is a coordinated interdisciplinary palliative care service comprised of a team of committed professionals responsible for designing customized treatment plans.

The distribution of hospitals that Unihealth Foundation has granted is largely consistent with the distribution of all hospitals. The most grant amount goes to the West Valley and Long Beach. Although seven hospitals which is the largest number has received grants from Unihealth Foundation, the total grant amount received in this area is lower than the previous two area.

Conclusion

According to the research, the income and population of the community is related to the distribution of hospitals. In an overall trend, the higher income and larger population of the area, the more hospitals there would be.

For Unihealth Foundation, the distribution of grants is largely consistent with the distribution of all hospitals. And the largest grant amount went to West Valley and Long Beach, Central and Glendale. Since those areas are the areas who have larger population and hospitals, Unihealth Foundation could keep granting those areas to build better hospitals and improve health of the community. Furthermore, districts where has a lower income but large population like Inglewood could be the target area when Unihealth Foundation want to expand their pool of grantees.

⁵ Unihealth Foundation Closed Grants Report.

Limitation

The list of hospitals from Los Angeles County GIS Data Portal is from the year of 2011. The data is outdated and new hospitals that were established after the year of 2011 are not counted in the report.