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CHIS Case Study

St. Joseph Health AskCHIS Neighborhood Edition (NE) Application Programming Interface (API) Case Study

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Prepared May 2021

Local-level groups are most effective when they can harness the power of data specific to their service areas. Community-based organizations, regional health care systems, and other groups with defined service areas that don't adhere to boundaries such as county lines still need access to data for understanding their constituencies. One solution is the AskCHIS NE© Application Programming Interface (API), a tool to allow organizations to customize their geographic parameters to maximize the power of CHIS data to inform their work. One such example is St. Joseph Hospital, which used the API to complete their 2017 Community Health Needs Assessment (CHNA).

CHNAs

California Health & Safety Code 127340 requires that not-for-profit hospitals demonstrate their commitment to meeting certain needs of their local communities through the provision of essential health care and other services. This is accomplished through a CHNA which is produced every three years. The Affordable Care Act has a similar rule with requirements for reporting to the Internal Revenue Service. St. Joseph's Hospital, serving Orange County, CA, is subject to these requirements.

In addition to meeting state and federal reporting rules, St. Joseph Health utilizes the CHNA process to better connect with the communities it serves through population health planning. These efforts allow the health system to engage with clinics and invest in the local community with targeted interventions that maximize their impact on improving public health.

Included in St. Joseph Health's expanding mission is this vision:

As we move into the future, St. Joseph Hospital is committed to furthering our mission and vision while transforming healthcare to a system that is health-promoting and preventive, accountable in its inevitable rationing decisions, integrated across a balanced network of care and financed according to its ability to pay.

St. Joseph Hospital dedicates resources to improve the health and quality of life for the communities it serves, with special emphasis on the needs of the economically poor and underserved.

This philosophy informed the development of the hospital's [2017 CHNA](#). At that time, the SJH Community Partnership Fund piloted a new standardized methodology for all SJH Legacy ministries with the goal of promoting best practices in community health needs assessments and identifying cost savings opportunities throughout the hospitals. Each SJH Legacy Community Benefit Committee sought to improve their report production while also identifying targeted geographic areas and programs that would reap the greatest benefit from their community investments.

St. Joseph Health identified high-quality data sources to create the evidence base for this process and, in addition to documenting the health conditions of the population, they included a host of socioeconomic factors, as well as information about the physical environment, health behaviors, and the availability of clinical care. In designing their new approach, St. Joseph Health improved population health data management, tapped into tools and resources across hospitals in different regions, and collected crucial data to generate a more complete picture of health in its service area.

As part of their data gathering process, St. Joseph Health utilized records from the Office of Statewide Health Planning and Development (OSHPD), ESRI, and the California Health Interview Survey (CHIS). Overlaying these data creates a more complete picture of the local area, particularly when crossed with community-based resources.

For the 2017 report, St. Joseph Health also utilized the *AskCHIS* Neighborhood Edition (NE) Application Programming Interface (API).

CHIS

CHIS is the largest state-based population health survey, interviewing more than 40,000 households in each two-year cycle to collect a robust sample that is geographically representative of California's diverse population. Since 2001, CHIS data has provided vital information on health conditions, health habits, health insurance coverage, and sociodemographic factors for adults, teens, and children. CHIS data are made publicly available through multiple sources including two user-friendly online query systems — *AskCHIS* and *AskCHIS* Neighborhood Edition (NE); the latter allows for more local geographic targeting. (More information about CHIS can be found [here](#).)

API

In 2016, the UCLA Center for Health Policy Research developed an Application Programming Interface (API) connected to *AskCHIS* NE. The API allows clients to build custom queries on dozens of CHIS indicators using geographic parameters such as ZIP code, city, service area, and state level.

St. Joseph Health's use of the API contributed to reduced costs when compared to previous data collection methods which involved expensive survey development and administrative tasks. The significant savings was returned to programming and direct services.

In addition to the cost savings, use of the API fostered some significant improvements in the organization and presentation of information gathered. St. Joseph's Community Benefit Committee reported several advantages to using the API, particularly the broad range of available data that facilitated access to many more indicators than were available in previous cycles. The API also allowed the data to be spliced by ZIP code

and service area, which gave St. Joseph's the ability to analyze indicators in ways not previously possible.

For example, the data confirmed that Santa Ana and Anaheim were in the same socioeconomic category, which was unexpected. This type of knowledge helped them define priority areas and more judiciously allocate "care for the poor" dollars. As a result, they are better able to implement programs in the community that address unmet needs through collaboration with local community organizations.

Working with the API

Initially, St. Joseph Health used the R software environment to pull data down, but this was not required once they used the API. However, they did compare initial API queries with R outputs to confirm the data was of high quality. The team reported that the API was easier to use than R, produced more robust data, and made "spot-checking" much easier.

The St. Joseph Health team also appreciated that UCLA treated the working relationship as a partnership, rather than a vendor-customer relationship. They noted that UCLA staff were very responsive to questions, creating an iterative exchange with the health system that led to the CHIS administrator's sharing ideas about data application that were well beyond the original scope of their inquiry.

Community Engagement

After using the API to extract and analyze data, St. Joseph Health engaged the community using qualitative methods to review and gather further feedback about the CHIS findings. The findings resonated with the larger community, further bolstering St. Joseph's confidence in the data.

Additional Benefits of the API

- For web developers, the data output facilitates programmatic access to estimates essential for data portals, visualizations, and clinical applications. For data analysts, the API brings granular health information directly into statistical software that can be merged with outside data to support more robust analytical strategies.
- The ability to combine ZIP codes was noted as very helpful. The information is smaller than county, but bigger than individual ZIP codes, which was deemed very useful.
- CHIS data available in the API are statewide (not just hospital service areas), which provides the ability to compare data at different levels (county, region, state). This aspect further increased the St. Joseph team's confidence in CHIS data.

- The St. Joseph Health team notes there is a move in the health care industry to better understand the social determinants of health that aid in developing better interventions and improve whole person care. For example, if individuals seek health care for stomach pains related to malnutrition, integrated multisectoral systems can help identify community resources and individual level data to connect people to appropriate resources such as needed social services.