

Enterprise Data Strategy & Analytics

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“the blueprint of the enterprise that provides a common understanding of the organization and is used to align strategic objectives and tactical demands.”



Business Architecture – Shaping L.A. Care's Future

By Kristina Jones

What is Enterprise Business Architecture?

You may ask yourself, what is business architecture? Although business architecture is not a widely used term in many of our daily roles, it is one that is forming within the fabric of L.A. Care. As defined, business architecture is “the blueprint of the enterprise that provides a common understanding of the organization and is used to align strategic objectives and tactical demands.” Much like a student prepares for graduation many years in advance or a family that plans to grow, both require careful planning and alignment with the future. Business architecture provides the foresight to that growth through the adoption of scalable workflow efficiencies that align with business drivers and capabilities within business, data and technology.

Recently, we launched an engagement with Optum Medicaid Advisory Services to help us in the collaborative development of a future state Enterprise Business Architecture for 2020. The kickoff meeting was held in late April with the anticipation of an eight week engagement. The focus has been around the following key functional areas (Health Services, Medical Quality, Provider Enrollment & Maintenance, Member Maintenance & Engagement, and Compliance).

In our work stream sessions we have had thoughtful discussions around key business drivers to improve our current state and support a future state where L.A. Care is not only recognized as a leader locally, but nationally as well. To achieve such heights requires an actionable and strategic model of what our future should contain.

To that request Optum has collaborated with key stakeholders across the organization to develop the following key deliverables to support a future pilot.

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Business Architecture – Shaping L.A. Care’s Future (cont.)

Key deliverables:

- Objectives and themes for L.A. Care to Stay in the Game / Win the Game / Change the Game: Although a sports analogy could be viewed as cliché, it was proven to be effective in the identification of key initiatives to drive enterprise improvements and market differentiation.
- Best practice value stream and business process mapping: As an organization that has grown as quickly as we have it was important to identify and look to adopt national best practices to support our strategic future.
- Maturity and capability assessment of existing business processes and data and technology: An assessment of our current capabilities and system maturity is needed to support the development of a roadmap to our future state
- Gap analysis: In the process of mapping business and technology capabilities with technology maturity classifications there will be identified gaps. These gaps will drive the development of a pilot and initiatives that will lead us to the future state.

As a result of the Target Future State design and Current State Gap Analysis we will build a multi-year roadmap of initiatives spanning business process improvement, data & analytics (EDSA), and technology (IT), for business units across L.A. Care. More updates to come as we continue to map out our future.

Employee Engagement 2018 Update

By Victoria Lopez

After several weeks of meetings and collaborating, on Tuesday, June 19th, the Employee Engagement focus group presented their ideas and suggestions to the entire EDSA team on the two areas of focus that the leadership team identified (based on survey results) to improve employee engagement in 2018. The two areas of focus were:

Q1: I know what is expected of me at work.

Q2: I have the materials and equipment I need to do my work right.

The leadership team asked the focus group to identify opportunities for improvement within these two areas and provide suggestions. The focus group, along with the contributions of fellow team members, came up with seven (7) discussion points for Tuesday’s meeting.

“I know what is expected of me at work

- Manage scope changes that can cause chaos and confusion on projects
- Set deadlines based on analyst and other team members input
- Define roles clearly

“I have the materials and equipment I need to do my work right.”

- Improve documentation and data governance and develop reliable data sources
- Set realistic expectations and provide leadership support
- Adopt a centralized process/tool to manage work and share progress

Overall

- Provide more leadership support and improve leadership knowledge of data

Staff discussed these topics in depth during the quarterly meeting and provided valuable feedback. An anonymous survey was also sent out after the meeting to gather additional feedback from staff. The leadership team held their first meeting on Tuesday, June 26, 2018 to review the presentation and the responses submitted through the online survey.

Employee Engagement 2018 Update (cont.)

They will continue to meet as they prepare a response to the EDSA team based on the suggestions provided. Although some of the opportunities for improvement involve L.A. Care at an enterprise level, EDSA leadership will do its best to encourage improvements where it can and create the best work environment for our overall team.

Next steps will be to prioritize the most important and feasible improvements and begin to plan on how to execute and implement these within the department. This is truly a team effort and takes every individual's input and contribution to be successful.

Thank you to everyone, leaders and individual contributors, for their continuous ambition to strive to improve and do better. It takes a team to improve engagement and EDSA is taking important steps in the right direction.

You can find the Employee Engagement presentation by [clicking here](#).

Analytics Showcase- Data is a Safety Net by Nathalie Blume

EDSA's Data Science Innovation (DSI) team is working to create new tools to predict who, among L.A. Care's hospitalized members, is at a higher risk of returning to the hospital soon after discharge.

Readmissions 30 or fewer days after discharge can signal an underlying problem with the quality of the care a member receives. It may also indicate a missed opportunity to control costs, especially when outpatient care might have addressed the members' needs before readmission became necessary. Additionally, it exposes frail members to hospital acquired infections for longer periods of time, and it frustrates any member who prefers to be home rather than - again - at the hospital. Accordingly, accrediting organizations commonly use readmission rates as a measure of the quality of the services that health care actors like L.A. Care render. L.A. Care in turn monitors the readmission rates of the PPGs and hospitals within its network.

Care Management nurses within L.A. Care's Utilization Management (UM) and Care Management (CM) have the means to reduce readmission rates. They routinely reach out to members to provide them with information, resources and support to help them stay out of the hospital. Currently, they identify the members who need this assistance through professional referrals, self-referrals, and the Health Risk Assessment (HRA) survey which is administered to a subset of our membership. UM and CM have asked DSI for a new tool to calculate the risk of readmission for every hospitalized member, and to do so before claims are generated but rather as soon as a member is first admitted to hospital.

DSI produced its first readmission risk prediction tool early in Q2 of 2018. Their tool outperformed the [Lace Index](#), a widely used formula developed in Canada approximately ten years ago (see table 1):

Table 1: Performance of two models on cases that are distinct from those that helped to form the models.

Model	Kappa ¹	AUPRC ²	Precision ³	Recall ⁴
L.A. Care Model 1	0.3803	0.6643	0.7135	0.6355
LACE	0.2979	0.6311	0.6845	0.5526

¹ [Kappa](#) measures how much better the model performs compared to guesses that only take class prevalence into account. It was selected as a better measure than accuracy to train and assess the model given the moderate class imbalance between index admissions that are vs. are not followed by a readmission. ² The Area under the Precision-Recall Curve ([AUPRC](#)) indicates the overall success of the model across levels of precision and recall. This measure does not change when better precision is solely obtained at the expense of recall or vice versa. ³ [Precision](#) is the ratio of the count of stays that were correctly predicted to be followed by a readmission within 30 days over the count of all stays that were predicted (correctly or not) to be followed by readmission. ⁴ [Recall](#) is the ratio of the count of stays that were correctly predicted to be followed by a readmission within 30 days over the count of all stays that were in fact followed by readmission.

Data is a Safety Net- by Nathalie Blume (cont.)

This first attempt took advantage of DSI's newly acquired Cloudera Data Science Workbench. DSI used a gradient boosting algorithm to train a model on a majority of all 2017 L.A. Care member admissions; a similar method was especially successful in a recent study by [Maali et al.](#) (2018) in Australia. Developing the model using L.A. Care's own, unique population was key to the model's success. Indeed, DSI limited the input to what LACE requires, i.e. Length of Stay (i.e. how long a member initially stayed in the hospital), Acuity (whether the member was admitted from an emergency department), the same 14 comorbidities (including previous myocardial infarction, chronic pulmonary disease, and metastatic solid tumor), and a 6-month count of prior ER visits. On this even playing field, DSI's model outperformed the LACE on both precision (0.71 vs. 0.68) and recall (0.64 vs. 0.55).

DSI is working on improving the quality of its predictions even more by expanding the input used to train future models. They are sourcing a list of several hundred variables that are associated with readmission in peer reviewed work. To support this sourcing work, they have become stakeholders in L.A. Care's Health Information Exchange (HIE) projects (LANE, eConnect, EDIE PreManage, plus direct outreach to select hospitals) which are meant to bring admission data into our systems more quickly and to expand our data universe to include EMRs. Additionally, they are developing a new workflow that interleaves modeling efforts with Causal Mapping Workshops with their subject matter experts. Finally, they are collaborating with UM to build reporting tools to monitor some of the systemic drivers of readmission.

LA Care is in an advantageous position to describe a member and his or her care beyond the walls of the hospital. DSI's readmission prediction project illustrates how the organization comes together to knit data into a safety net for members in one of the most vulnerable moments of their lives.

Disconnect to Connect!

Getting to know your teammates,
20 random questions at a time.



Name: Chee Lee, Data Science

Hometown/place of birth: My hometown is St. Paul, MN, but I was born in a refugee camp in Phana, Thailand.

Favorite color: Pink

Favorite food: Poké

Favorite place you've ever visited: Amazon rainforest

Top place you'd like to visit: New Zealand

Favorite weekend hobby: Running by the beach with J and M.

Favorite movie: Anastasia

Favorite song/band/artist: Major Lazer

Favorite thing to do on a Friday night: Indian-food-induced food coma

Currently watching on TV or reading: A Series of Unfortunate Events (season 2 on Netflix)

Any pet peeves: I can't sleep if I know the closet door is opened.

What is something you think everyone should do at least once in their lives: Fall in love.

If all jobs had the same pay and hours, what job would you like to have: Personal trainer at my own gym.

What's the best way to start the day: Deadlifts.

Would you rather be invisible or be able to read minds: Read minds!

If you had a time machine, what point in the past or future would you visit: I would go to when my dog was born so that I could rescue him then and have more years with him.

What is one of the things on your bucket list: Hmm...I don't have a bucket list. I'm pretty content where I am. Maybe get a second dog?

If you could only take one physical item with you on a deserted island, what would it be: A Swiss army knife.

Share a random fact no one would ever guess about you: I can't whistle. If I try really hard, I can whistle one note but it's only audible about half the time.

Birthdays & Anniversaries

July Birthdays

Anthony Perera- 1st

Kenyon Bragg- 11th

Victoria Lopez- 16th

Michael Hu- 23rd

July Work Anniversaries

Michelle Chen- 1 year (11th)

Hellos & Farewells

In June, we said farewell to Elya as she transitioned into the role of Manager of Data Analysis and Actuarial Support in the actuarial team within the finance department at L.A. Care. We thank her for her knowledgeable contributions to EDSA.

Life is better when you're laughing...



IMPORTANT REMINDERS:

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