211 data for social good

Mathieu Chaurette

211 Grand Montréal, mathieu.chaurette@211qc.ca

The purpose of this project is to use artificial intelligence to analyze data collected by 211 in order to develop a Canadian-wide social planning tool that can identify the needs in some communities and detect trends and changes in social behaviour.

211 is Canada's primary source of information on government and community-based health and social services. Over the phone and on the web, 211 helps to navigate the complex network of human services quickly and easily, 24 hours a day, 7 days a week, in over 100 languages. 211 connects people to the right information and services, strengthens Canada's health and human services, and helps Canadians become more engaged with their communities.

The 211 network in Canada includes 14 operators across 7 provinces. These operators deliver the same basic services, apply the same quality standards and meet bimonthly to work on various projects and to find innovative solutions to local issues. 211's across Canada also share common technologies and database standards. They all use the same database provider, meet the standards of the Alliance of Information and Referral Services (AIRS, airs.org) and index all their records according to 211 LA Taxonomy of Human Services (211taxonomy.org).

211 owns and generates a great deal of community and social data. To begin, each operator owns a database on organizations and services that is kept updated by certified resource specialists. Although these data are still not pooled into a single database, operators all use very similar input standards and fields of information. 211 Canadian data on services add up to approximately 100,000 entries. Next, for every request 211 receives, a call report is completed. The report includes non-identifiable information about the client (e.g., gender, age, postal code), the nature of the request made and the organizations referred to the client for each request. The 211's in Canada answer more than 500,000 calls annually, and their data history covers several years. Finally, let's not forget the web data analysis potential as there are 8 websites managed by 211's in Canada, which have received more than 2 million visits in 2017.

One of the key mandates of 211 is to improve social and community planning by sharing information relating to requests received. 211 data can contribute to enhance the social fabric and help to reduce inequalities by ensuring a fairer and more equitable resources redistribution based on real needs observed in the community.

Therefore, our idea is to maximize the social analysis potential, which could be done with 211 data. We believe it would be possible to create a tool that uses artificial intelligence, using 211 data as well as other data sets, to detect social needs in some communities in order to improve and optimize social development.

The 211 network in Canada represents a great starting point to develop that kind of tool. With its 14 operators across Canada, its relatively standardized data and its call history of several years, the network is an organization unlike any other. At this time, the 211 network has not created a common database and would need to be well oriented by artificial intelligence professionals in order to grasp its full potential. With the appropriate guidance, the 211 operators would be willing to make the necessary changes to create a common database that would be suitable for machine learning. Nevertheless, 211 service providers know rather well that the data must be used for the common good. Most of them have already developed business intelligence tools to make governments and community partners aware of the needs they observed within their territory.

The potential of a social planning tool that would use calls and organizations data goes beyond the Canadian 211 network. First, such a tool would also be useful in the United States since the 211 service is also available for 94% of the American population. Annually, the American 211 network answers more than 13.4 million calls and close to one million text messages, chats and emails (211.org). Next, it's possible to imagine that other community organizations providing phone services would deliver data and contribute to this social planning tool. Organizations providing specific services to certain groups of people – e.g., helpline for youth, helpline for the LGBTQ community – could contribute and enhance some segments of the social analysis. With markers and clear guidance, the artificial intelligence industry could help community organizations to define the standards that would lead to an innovative social planning tool that more and more organizations would want to join. Such increase in use would therefore gradually improve the tool quality.

All members of the 211 network in Canada are ready to work together on this idea and to build on their data to improve social welfare. Two of its priorities for 2018-19 are already: 1) to use data for the common good and 2) to explore the possibility of creating national databases for social analysis. We believe the artificial intelligence potential and the creation of social tools would generate enthusiasm among the 211 members and other organizations, leading them to participate in a joint project of planning and advanced social analysis.