Inquiry into the Victorian Government's COVID-19 Contact Tracing System and Testing Regime

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Organisation Name:
Your position or role:

YOUR SUBMISSION

Submission:
SUBMISSION TO THE:
INQUIRY INTO THE VICTORIAN GOVERNMENT'S COVID?19 CONTACT TRACING SYSTEM AND TESTING REGIME

November 14th, 2020.

Dear Members of the Inquiry into the Victorian Government's COVID-19 Contact Tracing System and Testing Regime Committee.

Thank you very much for initiating the investigation into the truly critical processes of Contact Tracing & Testing Management and for providing this opportunity for me to contribute to work of the Committee.

In recent years, I have been teaching IT Management & Emerging Technologies - related subjects to MBA and MIS students as well as writing for the Data Science Foundation (UK) and doing consulting work. Many of my work projects involve Data Analytics so when the Contact Tracing commenced in Victoria, my initial optimistic expectations (that were based on my appreciation of the powers and capacities of the contemporary analytics technologies) slowly started to give way to bitter disappointment due to the obvious impotence of the contact tracing regime that all of us have been witnessing.

It should also be noted that as someone who has been living in Victoria throughout the pandemics, I am writing this submission not only as a ''scholar'' of the Contact Tracing efforts of the State Government but also as an indirect recipient of those efforts, since my health, well-being and even the socio-economic climate in my State of Residence that I love dearly have all been put at risk/affected by the ways those efforts have been handled. Therefore, I am making this submission not because I am a Data Analyst but because I have been living in Melbourne (Victoria) for 29 years and I am truly proud to call Victoria home! The purpose of this submission is not only to assist in establishing ''what went wrong'' but also to ensure that the shortcomings and failures highlighted are not to be repeated in future. The pandemics is far from being over and we can not rest assured that we won't have to resort back to contact tracing again. Also, throughout the submission, I've attempted to avoid ''assumptions and perceptions'' and ensure that my analysis of the contact tracing debacle is based on the publicly available sources (articles, papers etc.) rather than speculations and anecdotal evidence. Likewise, as I am not a virologist, the submission looks exclusively into effectiveness of the data analytics methods and approaches selected rather than contact tracing in general.

The challenges faced by the Victorian Government can be classified into 2 separate categories:

• The Technology Implementation Challenge (COVIDSafe App)
• The Data Analytics Challenge

1. The Technology Implementation Challenge (COVIDSafe App)

First of all, it should be noted that development and implementation of the COVIDSafe was carried out at Federal level rather than the State one, so linking shortcomings of the App itself to the investigation would not do the current enquiry justice. It is clear that during design and development stages of the App's creation, several important analytics variables have been omitted but then again – this is beyond the scope of the Victorian State Authorities' responsibilities. However, the are other factors that need to be taken into account namely:

• Unreliable Data Collection and Processing Methods
• Poor COVIDSafe Adoption Rate
• Lack of Segment-Defying Variables

1.1 The Technology Implementation Challenge Explained

As I am no medical expert, I am not going to deliberate on the reasons behind many ''false positives'' and ''false'' negatives identified during the testing stages, therefore making the data processing and consequent performance of the App in identifying the virus carriers extremely unreliable. However, it should have been clear from the very start of the App's implementation that in high-density buildings such as shopping centres (that are traditionally known for poor mobile reception) the app was not going to perform consistently.

Those arguing in defence of the COVIDSafe's implementation proponents have been suggesting that the failures were ''hard to anticipate'' as this is the very first pandemic of the modern times and there was limited time available for the pre-release testing. It is indeed our very first pandemic but it is NOT the reason for us to implement an untested App and ''Wait and See what is going to happen next''. On the contrary, more attention should've been paid both to the '' known unknowns'' and to the ''unknown unknowns'' and this was not done! Furthermore, creators and users of the Blue Trace Protocol (the Open Source application protocol behind the COVIDSafe App creation) already identified many of the challenges and adjustments required prior to the COVIDSafe being implemented in Australia. Without going into technical details, it can be stated that there appears to be little evidence that those challenges were taken into account prior the App's release as the problems did persist!

The relatively poor COVIDSafe adoption rate has been yet another factor that hindered effectiveness of the App. Notably, the adoption rate was particularly low among certain segments of our community, namely older Australians & Australians coming from less-privileged backgrounds. No evident efforts have been made to increase adoption among those user groups and therefore accepting (even if we assume that the COVIDSafe does work well) that they are inevitably going to be left behind.

1.2 The Technology Implementation Challenge in Victoria

The most densely-populated SA2 in Australia has been inner-city Melbourne (19,500 people per sq km). Overall, Victoria has 2nd highest population density out of all of the States and Territories behind the ACT only. Therefore, it was obvious from the start, that in the inner suburbs of Melbourne – deployment of the App could do more damage rather than good by not only providing misleading information to the State authorities but also allowing people to have a false sense of security when armed with the App!

A lot has been said on the differences between the NSW and Victorian tracing systems. One distinct feature of the ''Victorian Saga'' has been a significantly greater share of mystery cases from the total number of the cases than expected. Once the rise of the mystery cases has become transparent – one would expect a swift action to address the problem. It also became clear that with many mystery cases emerging – the app was becoming far less reliable for all of the stakeholders to use…yet it remained in usage and was promoted rather proactively.

As discussed above, the APP adoption appears to be particularly poor at the locations/clusters of the virus

hotspots. The very idea behind employing Data Analytics is not just to collect some data but to analyse this data efficiently and to act upon it. Once the trend of certain communities/socio-economic/age groups being left behind with the App's usage has become obvious, some action should have been taken in order to ensure that the discrepancy was addressed!

To sum up: in the light of the failure of the COVIDSafe app to provide reliable and accurate information, the Victorian State Government should have considered the possibility (would obviously involve consultations with the Federal authorities) of advising people of Victoria NOT to rely on the App too much! In some of the other States and Territories of Australia, deployment of the App, may (just may!) have had its merits but in Victoria, as far as contact tracing and keeping the public safe is concerned – it has not been the case…and the sense of the of the ''false security'' can only do harm!

2.1 The Data Analytics Challenge: The Failure Explained

It is clear by now that in Victoria, Data Analytics for the contract tracing has not been carried out in the best possible manner. The fairly recent overhauling of the initial contact tracing system suggests that the contact tracing management team is fully aware of it (irrespective of whether they choose to admit it or not). Even without comparing sheer effectiveness the Victorian contact tracing efforts with the efforts demonstrated both elsewhere in Australia and internationally, there are some obvious shortcomings to be noted.

In Data Analytics, when sorting and processing data, it is absolutely essential to make sure that the data features are identified and labeled accurately making it possible to assemble databases where all of the data sets are brought to a common denominator. Needless to say, this should be carried out without any data torturing or data dredging along the way.

From the very start of the contact tracing, epidemiologists were able to spot the problems straight away. To quote Catherine Bennett, Chair of Epidemiology, Deakin University

'' Fundamentally, NSW's system of decentralized local area health districts meant when the second wave hit, that state was able to draw on teams embedded in their local communities to manage contact tracing. These teams worked independently but also in concert under the mothership of NSW Health.''

Furthermore, Dr Bennett has rightfully pointed out that:

'' What's crucial is a nuanced understanding of local, social, and cultural factors that may facilitate spread or affect how people understand self-isolation and what's being asked of them. It can also make a critical difference in encouraging people to come forward for testing.''

In the light of the dramatic socio-economic differences outlined above, the data collection and the consequent Contact Tracing activities should have been carried out NOT through a single standard method/analysis pattern but through a range of methods and patterns that were to be tailored to analytics needs for contract tracing within those communities! Without such pattern recognition, all the analytics activities had a questionable degree of accuracy. Yet, this was not done! One may wonder how it was possible for an experienced team of Data Analytics experts to allow such obvious data torturing!

2.2 The Data Analytics Challenge: So Was There a Better Way?

In my opinion, there was a far better way to organize the contact tracing! Instead of handling contact tracing the way they did, the Victorian Health Authorities should have considered tailoring the contact tracing activities and the consequent data analysis to each and every local area/postcode/community from the VERY START! I am NOT a medical/sociology expert but I trust that relevant differences between the communities/local areas across Victoria had already been well-established long before the pandemic

commenced. Furthermore, the current wave is the so-called ''second wave'' and since there has already been a ''predecessing'' first wave, there were lessons to be learned. Likewise, similar COVID19 data analytics challenges have been happening around the globe, so there has been no shortage of case studies and scenarios to learn from.

More specifically, it was NOT even about having separate teams of people analyzing the data or not but about treating each and every community/local area as a separate entity for the analysis! Having such dedicated Data Marts would definitely increase accuracy and relevance of the contact tracing!

Proponents of the Victorian Governments have been pointing out that ''even if things were not done in the best possible way'' – it was mainly due to the lack of sufficient funding/workers to attend to the tasks of the contact tracing. This is certainly true in relation to the manual tasks (contacting people around the communities, raising awareness etc.). However, as far as usage of the Data Analytics Tools and Technologies is concerned, the analytics processes are all automated so could have been improved at a relatively low cost, subject to better management and implementation practices.

To sum up, from the Data Analytics perspective (the one and only perspective that I am looking into the contact tracing failure from!), the Victorian Health Authorities failed to:
• Establish the data patterns accurately
• Manage Big Data collection and formatting in a way that would bring data sets to a common denominator rather than simply ''bring all the data together''
• Tailor the data analysis methods to the requirements of the segments considered (instead of analyzing data for the entire state in a very same way, using the very same methods and patterns without taking into account differences between the data sets across Victoria)

In conclusion, I would like to emphasize once again that my views above are exclusively on the way the Data Analytics part of the contact tracing has been handled and reflect upon the Analytics processes alone rather than the individuals and teams involved!

I would be more than happy to respond to any further questions on the Contact Tracing Analytics and I can be contacted on ███████████████████████.com.au

P.S. the File attached includes links to the sources that I am referring to throughout my submission

FILE ATTACHMENTS
File1:
File2:
File3:

Confidentiality:

Signature:
Michael Baron