

## **Presentation 2:**

### **Use Big Data Analytics and Interventions to Promote Early Detection and Enhance Resilience of Family Caregivers at Risk**

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#### **Summary:**

This presentation describes a research journey that started with a project “Becoming Parents: A hospital-community partnership to enhance transition to parenthood” (HCPF Project No. 03100105). The project focused on a specific group of clients (expectant parents) with a particular life event (transition to parenthood). The findings and impact of the project went beyond what was anticipated as well as provided compelling evidence for the need to study capacity building in the community. Particularly, the role played by family caregivers in the face of adversities raised more questions than it provided answers.

The journey then took the researchers to a large-scale community project funded by the Hong Kong Jockey Club Charities Trust with an aim to enhance the resilience of family caregivers in at-risk families. The 2-year project (2017-2019) in a relatively deprived community offered valuable opportunities for working closely with family caregivers experiencing high stress burden. Notwithstanding the positive outcomes of the community project (which was renewed for 3 more years with additional funding), it also became apparent that early detection of high stress burden warranted further study.

Our team of researchers experimented with the use of big data analytics and soon began to unravel the relationship between resilience and stress burden. This opened up a new direction for studying resilience and understanding the impact of interventions on enhancing resilience. Furthermore, the use of big data analytics at a human level inspired the researchers to apply the methodology at a more global level during the COVID-19 pandemic. So far, the results have been encouraging. Examples of using big data analytics for the COVID-19 pandemic include an analysis of cross-country pandemic connectedness in COVID-19, pandemic risk of COVID-19 outbreak in particular countries, and detection of early signals of COVID-19 global pandemic from network density. <https://covid-19-dev.github.io/>