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## Commentary

## A 24-hour online youth emotional support: Opportunities and challenges

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Suicide is a major global health problem with more than 800,000 deaths each year. It is the leading cause of death amongst the youth and they are always the ones who are difficult to engage [1,2]. Suicide and crisis hotlines are generally considered to be efficient and viable mechanisms by which to respond to the needs of suicidal individuals and those in mental health crisis, and direct them to suitable resources [3]. Young people have reported finding online and mobile interventions to be acceptable, low effort, and useful [4]. Most importantly, online support allows young people to remain anonymous and thus reduce the risk of being identified and stigmatized [5]. Given the current lack of engagement of young people with suicide crisis hotlines, and their preference for social media, Hong Kong has launched an innovative online crisis support service model Jockey Club Online Youth Emotional Support - *Open Up* to better engage young people in distress [6]. The *Open Up* was launched in October 2018 to provide the first known text-based, synchronous online counselling and crisis intervention service in Hong Kong targeting young people aged 11–35 [6]. The service was co-created by three local service providers (Caritas Hong Kong, The Hong Kong Federation of Youth Groups, and The Boys' & Girls' Clubs Association of Hong Kong), and one academic research team (the Hong Kong Jockey Club Centre for Suicide Research and Prevention, The University of Hong Kong). The initiative was funded by The Hong Kong Jockey Club Charities Trust.

The unique features of *Open Up* include: (i) one online chat platform, the five incoming channels (FB messenger, SMS, WeChat, WhatsApp, and the official web portal) are integrated and unified into one platform with a service operation control panel consoli-

dating all information for duty officers to master the overall help-seeking status; (ii) 24/7 timely professional support, the first of this kind in the region which provides 24 h a day, 7 days a week around-the-clock emotional support to young people in distress anywhere and anytime, (iii) anonymity, users can choose to stay anonymous throughout the chatting process, (iv) use of artificial intelligence (AI) algorithms, all chat conversations are automatically recorded and annotated to develop algorithms to enhance service efficiency and for research and evaluation purposes, (v) risk categorization and screening, users are categorized into one of the four risk levels: crisis, high, medium, or low according to definitions, different intervention approaches apply to the different risk levels by engaging them in a chat service to prevent the escalation of their crisis state and linking them with appropriate connected care.

*Open Up* also offers a continuous learning platform which improves its intelligence in evaluating its effectiveness and impacts, and enabling it to identify good practice models for long term sustainability. At the same time, *Open Up* disseminates the service insights and knowledge gained from engagement with youth regionally and globally to professionals, researchers, students and the general public to benefit those in need.

During the first 19 months (up to April 2020), a total of 61,267 (70.96%) of incoming cases ( $N = 86,346$ ) accepted the Terms of Service [3]. Of these, 37,397 (61.04%) cases were valid chats (chats with four or more message exchanges between user and counsellor), with an average of 39.8 message exchanges and 55 min of average chat time. The monthly average valid cases were 1968. Fig. 1 reports the monthly incoming and valid cases. The number of valid cases had increased from 51 cases since its inception to 87 cases per day on average. Each of the counsellors can take up not more than three cases and volunteer not more than two concurrently.

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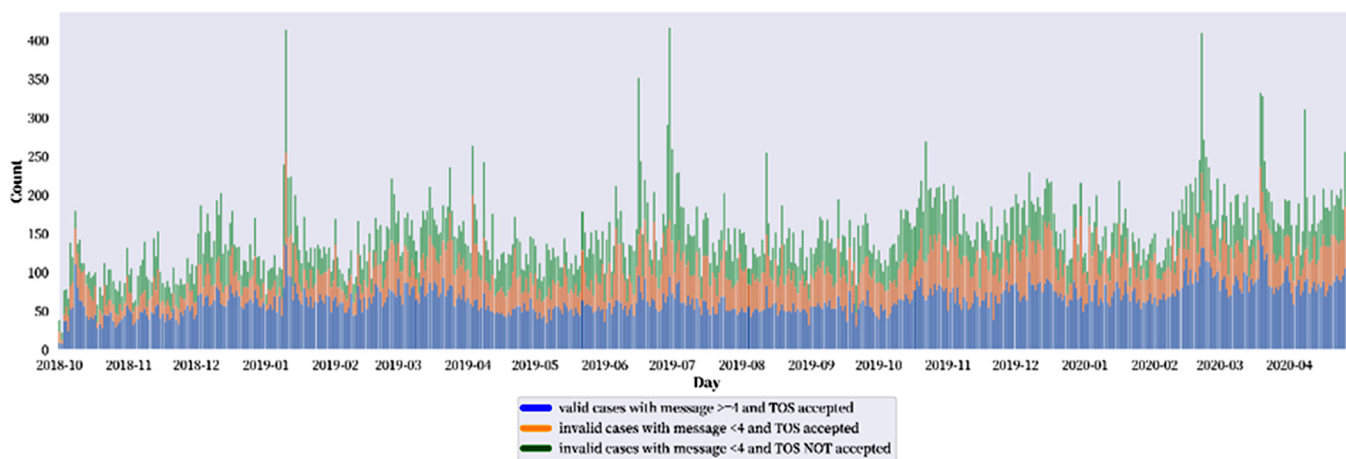


Fig. 1. Number of incoming and valid cases from October 2018 – April 2020.

Of the valid cases, 1267 (3.39%) were screened as crisis risk, 697 (1.86%) as high, 4946 (13.22%) as medium, and 30,487 (81.52%) as low. There is no significant difference in chat time amongst different risk levels. There were more females than males (69.30% vs 30.70%). The peak contact hours were between 19:00–01:00. The most frequent chat topics were mental health (24.37%), interpersonal relationships (11.49%), family (8.82%), academic study (8.43%), and intimate relationships (7.05%). There were also topics related to trendy social and political issues, such as the social unrest in Hong Kong since June 2019 and the recent COVID-19 pandemic since January 2020. About 1% of the users took up nearly 30% of the valid cases. Through the user post-chat survey, users' experiences are found to be satisfactory; 90.75% found the service helpful, 86.44% were more willing to seek help in the future, and 66.56% would recommend the service to others. Of those who were provided with referral service information during the chat, 75.56% found the information helpful.

*Open Up* appears to be convenient, efficient, effective and appropriate to target user needs. More specifically, the convenience is that users can decide when they want to talk to a counsellor and the peak time of usage is from 19:00 to 01:00 when there are no offline and traditional services. The efficiency is determined by 86.32% of the chats that are able to connect with counsellors without any waiting time after they accept the Terms of Service. The effectiveness is demonstrated by the results of the user post-chat survey, in which 90.75% of the responded users indicated that they had been benefited by the service. The appropriateness is shown by the increasing number of chats since the initiation in October 2018 and the daily number of chats which had increased from 51 to 87 in April 2020.

It is also encouraging to witness a decline in suicide rate amongst young people (ages 15–24) in Hong Kong for the period 2018–2019 [7]. However, we have identified challenges and a few areas of improvement. Challenges included effective suicide risk screening, policies for handling frequent users, target-based promotions for potential high-risk users, and the involvement and participation of volunteers. It is also a challenge to make good use of AI in running the platform more efficiently and effectively with the complexity of data accumulated. Areas of improvement included having a good practice model to identify optimal manpower and chat time arrangements, to enhance project effectiveness and sustainability by providing professional training to volunteers and to monitor service quality. Another potential development area is to standardize service protocols and enhance users experience and build up connected care with continuous online support and potential offline arrangement.

Future research will focus on developing good-practice models which include the positioning of the platform, service protocols, standardized risk assessment tools, adaptive online counselling skills, offline and online interventions, smarter AI and deep-learning algorithms, and capacity modelling for future development and sustainability. Current experiences from *Open Up* may be useful to other countries which are considering developing a similar service, especially during COVID-19 pandemic, which has disrupted many traditional offline services [8].

#### Author Contribution

Paul YIP is the Principal Investigator of the project and he has written the paper. Wai Leung CHAN is the coordinator of the Service Operation Team and responsible for the operation of the project. (data collection and data interpretation). Qijin CHENG is contributing to the research and development of the project. (literature search and study design). Shirley CHOW provides the clinical supervision to the OPEN UP service operation team and get the data for the project. (data collection and data interpretation). Siu Man HSU is a member of the coordination committee and supervises workers from one of the three operating NGOs. (study design). Frances Y.W. LAW is the co-investigator of the project and coordinator for the Evaluation and Knowledge Dissemination team and contributed to the design and evaluation of the service. (literature search, study design, data analysis and data interpretation). Billie LO is responsible for implementing and maintaining the OPEN UP system. (study design). Ken NGAI is responsible for the IT development of the OPEN UP system. (study design). Kwai Yau WONG was a member of the coordination committee and advised the strategy for the project. (study design). Cynthia XIONG is the project manager of the project. (figures, data analysis, and writing). Tsz Kong YEUNG was a member of the coordination committee and supervised workers from one of the three operating NGOs. (study design).

#### Declaration of Competing Interest

All authors have nothing to declare.

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