

## Interview Script

### 1. How do we match the patients to the practitioners?

- Our Depression Screening System matches depressed patients with mental health practitioners based on two hard constraints and four soft constraints. The hard constraints are patients' depression severity and language ability. The soft constraints are patients' preferences for the day of the appointment, where the practitioners are located, gender of the practitioners, and treatment costs.

Starting with the hard constraints, our system scores the severity of a patient's depression with a number from 0 to 27. Patients with scores between 10 to 27 require treatment. A score between 10 to 14 indicates that a patient is moderately depressed, and the patient should see a counsellor. A score between 15 to 19 indicates that a patient's depression is moderately severe, and the patient should see a psychologist. A score between 20 to 27 indicates that a patient is severely depressed, and the patient should see a psychiatrist.

Patients and mental health practitioners need to communicate and understand each other during treatment. The system pairs patients with mental health practitioners who shared at least one language in common. Patients and mental health practitioners can speak one or more of these languages: English, Mandarin, Malay or Tamil.

Our system optimizes the matching of patients with practitioners through fulfilling four soft constraints. Patients will indicate a day of the week, Monday to Sunday, that they preferred to see the practitioners. The system will try to match patients with practitioners who are available on the preferred day.

Patients will indicate where they would prefer to see the practitioners. There are five regions to choose from: Central, East, North, Northeast, and West. The system will try to match patients with practitioners working in their preferred regions.

Patients will indicate whether they prefer to see female or male practitioners which the system will try to match accordingly.

Finally, the system will try to pair patients with practitioners that have lower treatment costs to keep the overall healthcare expenditure low.

### 2. How does this current system complement the first phase of the project?

- a. Our Patients Scheduling System complements the Depression Screening System through recommending practitioners to depressed patients who required treatment. Depressed patients may find it challenging to navigate the local mental health service landscape. They may not know the kind of treatment that is required for their severity of depression and how to locate these treatments.

Counsellors, psychologists and psychiatrists are best suited to treat depressed patients with certain level of severity. Counsellors typically work with moderately depressed patients, psychologists typically work with patients with moderately severe depression and psychiatrist work with severely depressed patients.

Organizations located in the community such as Family Service Centres, polyclinics, hospitals, and the Institute of Mental Health provide treatment to depressed patients. But not all kinds of treatment are available from these institutions. For example, patients typically can find services provided by counsellors and psychologists in Family Service Centres but psychiatric services can only be found in hospitals.