

## **Project Title**

NUHS Harmonised Clinical Referral and One Appointment System for Faster Scheduling Turnaround Time

## **Project Lead and Members**

Project Lead(s): Evonne Ho  
Project Members: Marissa Tan, Yvonne Chia, Rachel Goh, Jessyln Ng

## **Organisation(s) Involved**

National University Health System

## **Healthcare Family Group(s) Involved in this Project**

Healthcare Administration, Medical

## **Project Period**

Start date: Nov 2020

Completed date: Ongoing. Launched Feb 2022

## **Aim(s)**

Streamline the turnaround time for referral to NUHS (National University Health System) from NUP (National University Polyclinics) via harmonization of clinical criteria to automate the referral screening process and centralized scheduling via OneNUHS Contact centre to schedule to all institutions in NUHS.

## **Background**

See poster appended/ below

## **Methods**

See poster appended/ below

## **Results**

See poster appended/ below

### **Lessons Learnt**

See poster appended/ below

### **Conclusion**

See poster appended/ below

### **Additional Information**

See poster appended/ below

### **Project Category**

Care & Process Redesign, Quality Improvement, Workflow Redesign, Productivity, Time Saving, Access to Care, Turnaround Time, Operational Management, Resource Allocation

### **Keywords**

Referral Time, Appointment, Streamline, Scheduling, Turnaround Time, Workflow Redesign,

### **Name and Email of Project Contact Person(s)**

Name: Evonne Ho

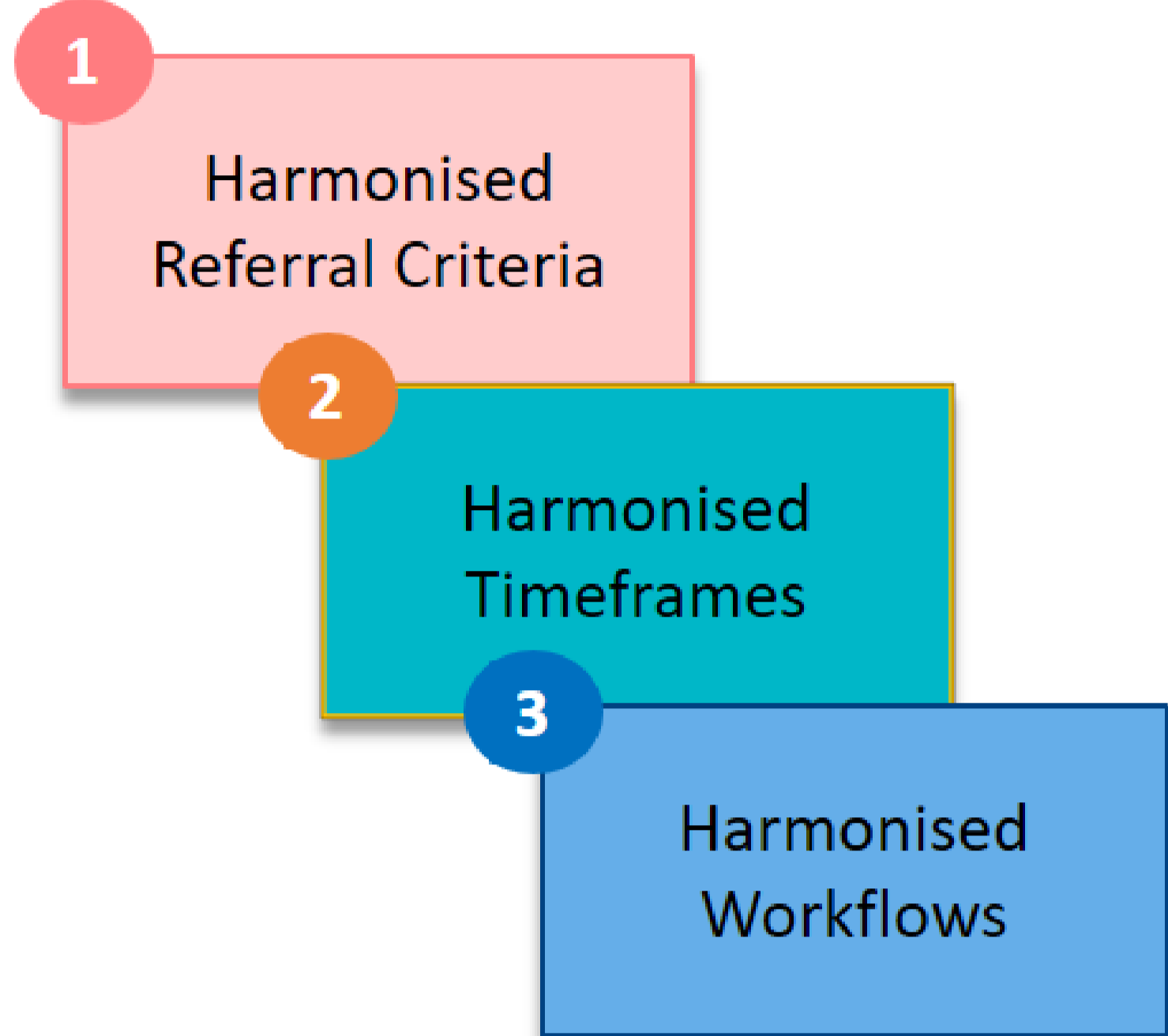
Email: [evonne\\_jy\\_ho@nuhs.edu.sg](mailto:evonne_jy_ho@nuhs.edu.sg)

# NUHS Harmonised Clinical Referral and One Appointment System for Faster Scheduling Turnaround Time

**Objective:**  
To enable One Contact Centre to make appointments across NUHS, so patients can be cared for within NUHS at the earliest possible time.



## Key Enablers



## The Challenge

The turnaround time for referral to NUHS (National University Health System) from NUP (National University Polyclinics) can be as high as 8 days (90<sup>th</sup> Percentile), with an average of 5.1 days from Jan 2021 – Jan 2022. It was found that this was due to excessive touchpoints and a relatively un-optimised workflow in the process of getting the referral scheduled.

## The Solution

By streamlining this process via harmonization of clinical criteria in the shared physician referral order form (by each speciality), harmonised timeframes (urgency) and harmonised workflows so that we can automate the referral screening process and provide the earliest available appointment (oneNUHS Appointment System). This is further made possible by consolidating our Contact centre (oneNUHS Contact Centre) and empowering them to be able to schedule to all institutions within NUHS (Figure 2.0). The reduction in manual communication and assessment of the referral has led to a consistent reduction in NUHS Referral turnaround time from an average of **5.1 days to 1.8 calendar days**.

## Vision – Seamless care experience

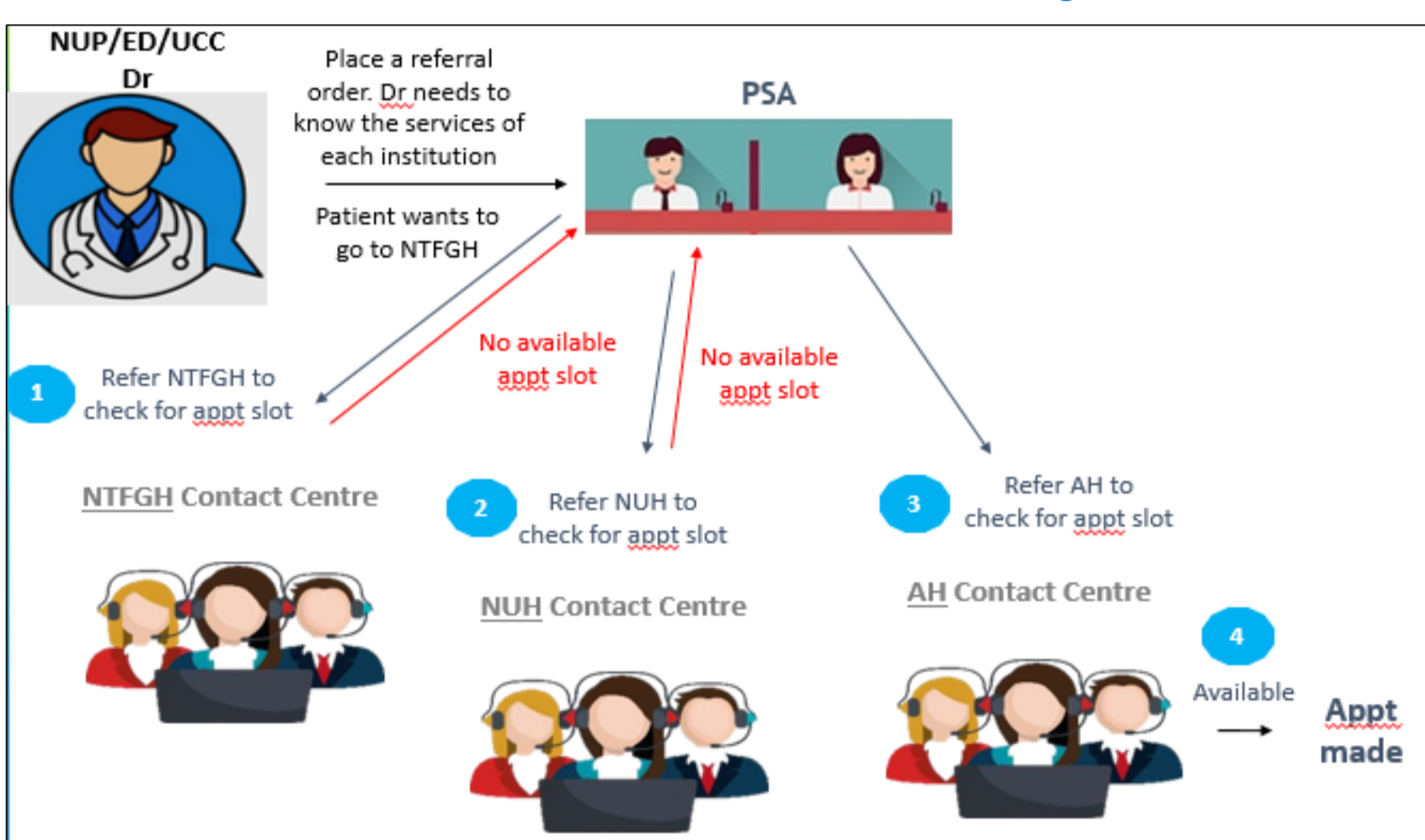


Figure 1.0

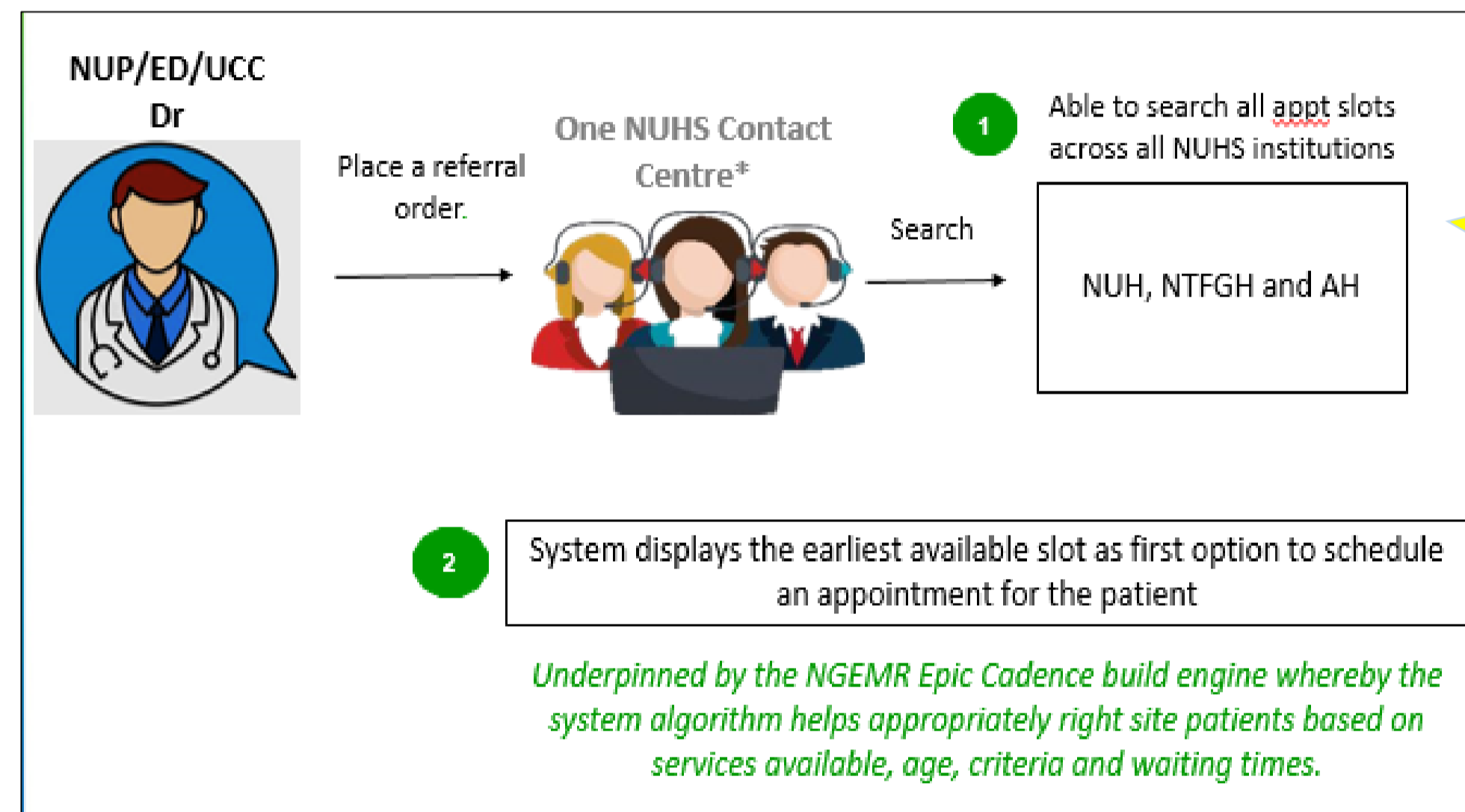
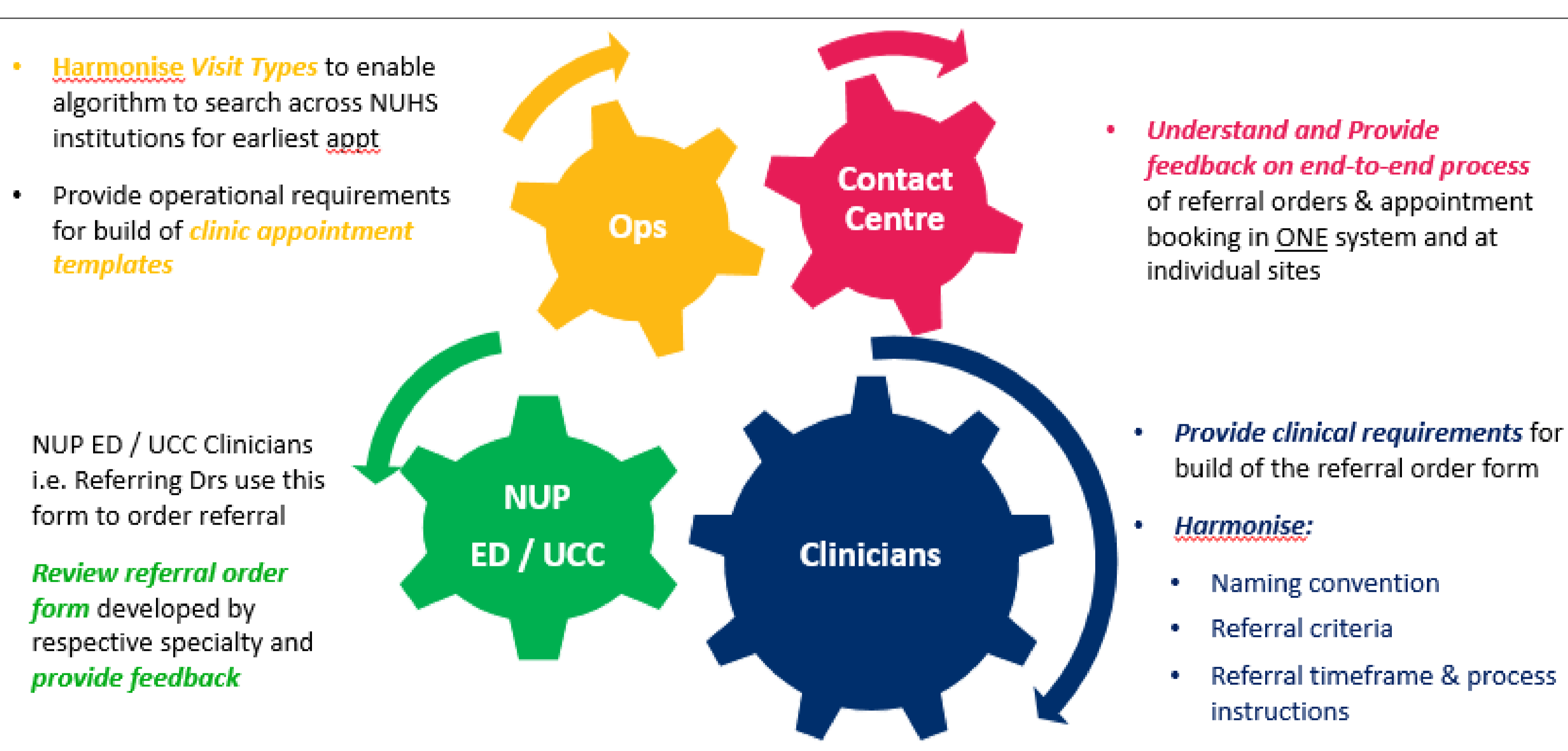


Figure 2.0

**IMPROVED**  
**Cross institutional Scheduling Turnaround time by nearly 300%**

## How?

Strong buy in and collaboration between Group Ops/Institution Ops, Clinicians, Contact Centre and Group Medical Informatics Office (GMIO) and support by senior leadership and head of specialty departments.



## Conclusion – user testimonial

Our turnaround time has increase in efficiency by close to 300% for our routine appointments and our handling time per referral is halved. We also use to have an average of 5 errors per month to current 1 error since we went live.

In terms of patient experience, patient will be given earliest access to treatment within NUHS if patient did not indicate location preference.

First Visits (FVs) at all 3 hospitals can now be made or rescheduled within the same call to the referral team. Before referral harmonisation, patients/referring locations have to call the 3 hospitals' contact centre themselves. So definitely an improvement to patient services as well.

~ Jesslyn Ng, Head, NUHS Group Contact Centre

## Results

The **RED line** signifies the starting point since we implemented this together with NUHS NGEMR wave 3b go live in Feb 2022.

- ❑ We observed that highest reduction in referral turnaround time (TAT) is for NUH as they contribute to the largest volume of referrals from NUP/ED/UCC
- ❑ There is no change in the TAT for NTFGH and JMC because they were already harmonized in the referrals process within Jurong campus even prior to NUH/AH coming onboard NGEMR
- ❑ For AH (Alexandra Hospital), you see a slight increase is because they had a relatively smaller load and when they came onboard NGEMR, they see a higher but appropriate volume when the system automatically load balanced the appointments.

