# Streamlining Attendance Tracking:
# QR Code Solution for Volunteer Management

## NTUC Health Co-operative Limited

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## Background

NTUC Health operates six nursing homes, each with a monthly average of 700 volunteers who are managed by a staff member.

Much time is spent every month on the administrative task of registering the volunteers for each activity.

The following is based on data recorded in January 2025. In total, close to 60 hours in a month are spent on attendance-related tasks, taking away time that could be spent with residents instead.

| Time Spent on Attendance Verification (6 nursing homes) | Time/Month (Minutes) |
|---|---|
| Travelling to activity space | 2,500 |
| Reviewing text messages | 1,038 |
| Staff and volunteer verifications on attendance (Text, calls or in-person) | 374 |

## Project Objectives

1. **Reduce time spent on attendance verification**: Minimise physical checks, allowing staff to save more than 40% time spent on attendance verification.
2. **Streamline Communication**: Automate attendance checks to save time and reduce errors.
3. **Improve Staff Coordination**: Enhance volunteer verification to reduce manual checks.
4. **Optimise Management**: Automate scheduling to free up time for resident care.

## Problem Analysis

A Fishbone Diagram is used to identify the root causes of inefficiencies in the attendance verification process by categorising contributing factors.

| Category | Specific Issues | | |
|---|---|---|---|
| **Man** | No cancellation notification protocol | No formal entry/exit logging procedure | Unclear communication channels for updates |
| **Method** | Manual check-in and out method with no automated data capture for attendance | No automated tracking system, leading to errors in manual attendance logging | No standardised attendance procedures or real-time tracking of participation |
| **Environment** | Physical limitations on site hinder proper logging | Limited staff for attendance monitoring | Unregulated scheduling causes inconsistent tracking of volunteer slots |
| **Machine** | Inefficient tools for tracking volunteer movement | Absence of a centralised platform for logging hours | No automated system to monitor volunteer attendance |

The root causes that contribute to operational inefficiencies and are most frequent include manual check-in/check-out processes, lack of standardised attendance procedures, unregulated scheduling, and the absence of a cancellation notification protocol. To address these challenges, the 8 Wastes framework was applied to streamline processes, eliminate unnecessary steps, and enhance overall efficiency.

| 8 Wastes Category | Identified Issue | How 8 Wastes Eliminate Inefficiencies |
|---|---|---|
| **Defects** | Errors in volunteer attendance records, requiring correction | Ensure accurate data entry by using automated systems and minimising manual errors. |
| **Overproduction** | Verifying attendance multiple times (e.g. text, call, in-person) | Eliminate redundant checks by automating or streamlining attendance tracking. |
| **Waiting** | Delays in volunteer arrival confirmation due to multiple checks | Implement automated systems (e.g., QR codes) to reduce waiting time for checks. |
| **Non-Utilised Talent** | Underutilising volunteers' or staff's skills in managing attendance | Streamline roles to focus on tasks that align with staff and volunteers' skills. |
| **Transportation** | Staff walking long distances to check volunteer attendance | Use digital tools to allow remote check-ins, reducing physical movement. |
| **Motion** | Staff movement between activity spaces and volunteer areas | Optimise volunteer check-in locations or use technology to eliminate movement. |
| **Inventory** | Managing excess documentation or paper logs for attendance | Implement digital logs to reduce physical inventory and improve accessibility. |
| **Extra Processing** | Checking attendance through multiple methods (text, call, in-person) | Simplify the process by consolidating attendance verification to one method. |

## Implementation Plan

The root causes were repetitive and manual processes of attendance verification such as going through text messages. Implementing a QR code check-in/check-out system will help to automate this, eliminating manual tracking. The goal is to track accurate attendance of volunteers with reduced timings. The system ensures accurate tracking and better cancellation management, with full implementation and volunteer buy-in expected within 4 weeks.

1. **A unique QR code** was created for each nursing home and displayed at the reception for easy access by volunteers.



2. **Inform and train volunteers** via WhatsApp and face-to-face meetings on using the QR code. Track participation in the first month and provide ongoing support through regular check-ins. The typical workflow after implementing the QR code is outlined below:
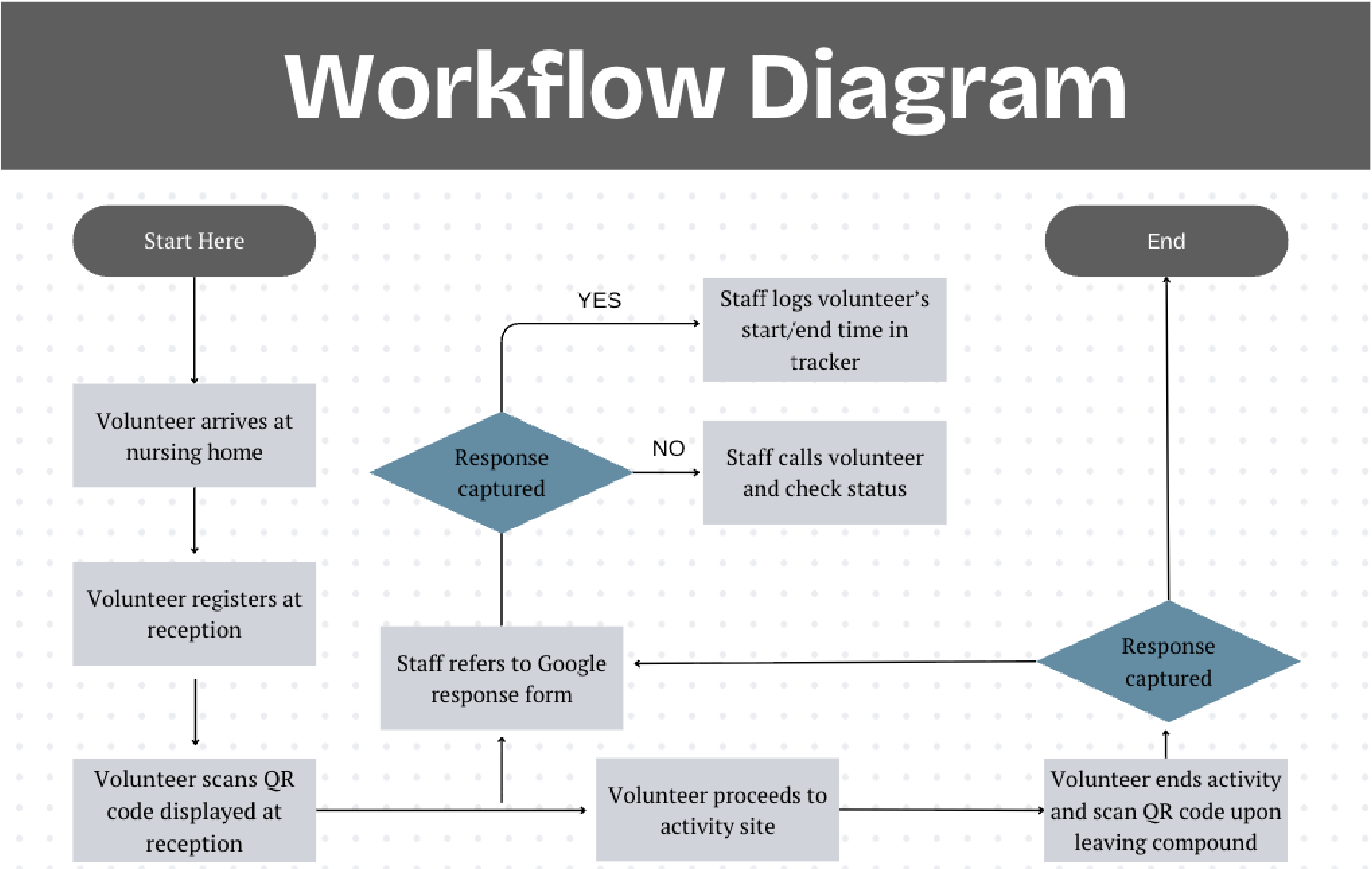


## Benefits/Results

Before the QR code implementation, attendance tracking took 65.2 hours across 6 nursing homes. After implementation, the time reduced to 31.75 hours, saving 33.45 hours (51.3% reduction). Key reductions were seen in physical verification of attendance and text message verifications. The QR code system improved efficiency, productivity, and accuracy, demonstrating significant time and cost savings.

| Implementation Stage Time spent tracking volunteer hours based one one-month period | Pre-Implementation (Jan 2025) Total time spent | Post-Implementation (Feb 2025) Total time spent | Total mins saved after QR code implementation |
|---|---|---|---|
| Physical verification of volunteer attendance (walk to activity space) | 2,500 | 310 | 2,190 |
| Communication to staff and volunteers for attendance (text, call, physically ask) | 374 | 100 | 274 |
| Verification of attendance timing through texts | 1,038 | 159 | 879 |
| Going through QR response log to check attendance of volunteers for activities | 0 | 1,336 | 1,336 |
| Total in mins | 3,912 | 1,905 | 2,007 |
| Total in hours | 65.20 | 31.75 | 33.45 |
| Time saved after implementing QR Code in %: | | | 51.30% |

## Sustainability & Reflections

The QR code system for volunteer attendance is sustainable as it can be easily implemented and it reduces manual tasks, improving efficiency. It ensures accurate tracking of volunteer hours while minimising staff time spent on verification, allowing more focus on resident engagement.

The system is easy to maintain with minimal costs, and regular updates ensure its continued relevance. Its simplicity leads to minimal disruption for staff and volunteers.

Reflecting on its impact, the QR code has streamlined administrative tasks and enhanced the volunteer experience. Moving forward, integrating it with the volunteer database management system will further support and sustain the improvements made.