

# Use of Robotic Process Automation to support service improvement in Dorset

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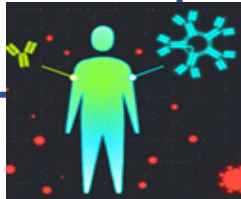
## Booking Health and Social Care Staff COVID-19 Antibody Testing and Issuing Results

### Background

When someone has an infection, the body will produce small particles in the blood called “antibodies” to fight it and potentially protect against future infections from the same virus. It takes 2-3 weeks for the body to produce sufficient antibodies to fight the infection. Once the person gets better, the antibodies can remain in their blood at low levels.

In late May 2020, as a response to the COVID-19 pandemic, the UK Government issued a policy requiring all NHS workers to be offered antibody testing within 6 weeks.

This was then extended to all health and social care staff in July with 4-6 weeks to deliver.



### Objectives

- Establish whether prior infection (measured through an antibody test) protects against future infection
- Understand how many health and social care workers may have been infected
- Determine whether understanding more about the antibodies could lead to a cure.
- Help inform national guidance and policy on COVID-19.

#### Target

Test the county’s 36,000 health and social care workforce for COVID-19 antibodies.

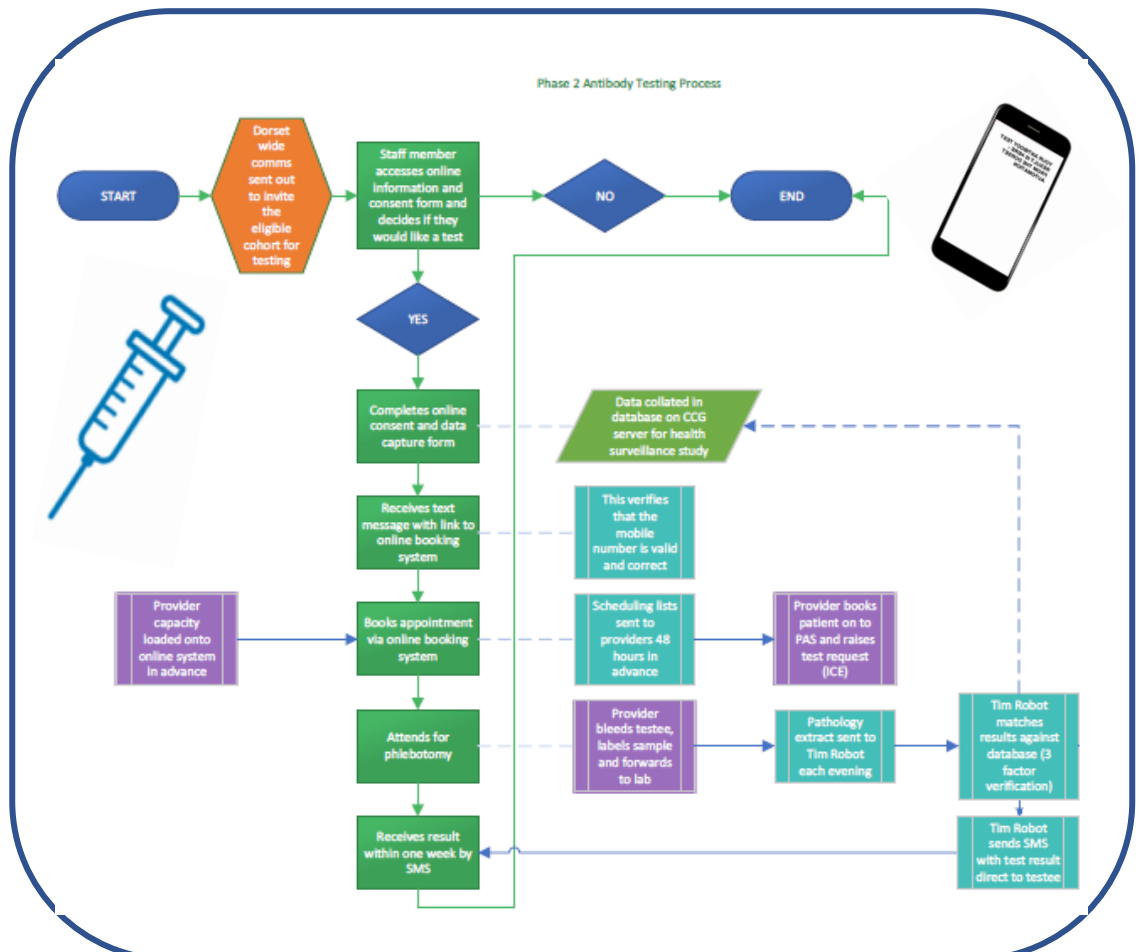
### Phase 1 Process Development

Dorset Acute providers managed their own staff testing supported by Occupational Health. In June 2020 Adelle Weir developed a electronic form to enable staff to enter the necessary information and, through an automated booking engine, book their own test. Results were returned the hospital at midnight and staff had to manually match results to individuals using NHS numbers.

#### Challenges

- People added the wrong mobile number risking results being sent inappropriately
  - Mitigated by a booking instruction text being sent following registration
- Data protection meant there were no demographics on the result, only NHS numbers
- Staff had to use v:lookup to manually match data and text the result
- The Occupational Health infrastructure was stretched by the high volume of results to be processed

### Phase 2: Automated process flow



## Key Challenges

- 7 days to implement a strategy to deliver against this policy
- No central government guidance was given to Trusts on automation, agreed data capture or reporting format
- Up to 36,000 tests to be processed and results sent out quickly and securely
- Additional workload for an already stretched NHS workforce was not viable and recruiting new staff would be financially and practically challenging.
- There were concerns about consent but it was agreed staff were consenting to the test by booking it
- NHS and mobile phone numbers were often entered incorrectly and this required manual intervention
- There was a constantly changing clinical landscape as greater understanding of the COVID-19 virus emerged

## Key Enablers

- Engagement from organisational leads to make resources available to develop the processes.
- Strong improvement culture facilitated the search for solutions
- The laboratory capability was set up to process 2000 test/day and ready for accreditation in 1 week
- There was access to local “digital workers” that could be programmed to undertake repetitive tasks
- This was a one-off development to meet a specific need but provides evidence of the time saving impact automation can have.

## Phase 2 Automation Development

- Paul Wyman established digital workers could receive the data as a CSV excel file and be programmed to locate the NHS number within the relevant field, in the same way a human would.
- The digital worker used the NHS number to search the information provided on the booking forms for the staff member’s contact details.
- It then composed an appropriate mobile text message to inform the member of staff of their results and scheduled it to send at 7.00am.

### Success

The Dorset system was able to test the following within the deadlines set:

- 19,000 healthcare staff
- 2706 care staff
- 646 police and fire staff



**Automation**  
**saved 841 NHS**  
**Work Hours**



### Key Learning

- Engaging process experts in the design process early
- To improve – there needed to be a high level of buy-in from all stakeholders
- A centralised project team with authorisation to deliver could have supported the whole system more effectively

## Impacts and Insights

By automating high-volume, repetitive processes, it was possible to improve the patient experience, as well as offering precious time back to clinicians and operational staff.

- Increase productivity and time management - 841 NHS Work Hours saved
- Increase clinical efficiency – Staff could book themselves in and be tested to enable valuable data on the prevalence of antibodies in local health and social care staff to be gathered
- Patient experience - Results sent directly to the staff members in a timely manner to minimise anxiety waiting for results
- Improve process integration, and reliability - Increased accuracy matching results to individuals
- Deliver continuous improvement – processes were reviewed and adapted
- Improved service user experience – staff received results back quickly and conveniently
- Worked within Information Governance regulations

**Innovation Spread:** There are opportunities to spread the use of result text messaging to other services, and this has been done in some organisations. NHS and mobile phone number verification is essential to security so links to the NHS Spine or local Patient Administration Systems need to be incorporated.