UK Health Security Agency

# Building the plane whilst flying it – the data infrastructure of the Covid-19 testing programme

“One lesson that is very important to learn from this pandemic, and for emergencies in general, is that data flows and data systems are incredibly important. You need the information in order to be able to make the decisions. Therefore, for any emergency situation those data systems need to be in place up front to be able to give the information to make the analysis and make the decisions.”

Sir Patrick Vallance, UK Government Chief Scientific Adviser
Oral evidence taken before the Science and Technology Committee on 16 July 2020


From: Agile Myths - Flying the plane while building it (pinterest.co.uk)

# Context


Public Health England


NHS
England


Department of Health & Social Care


Office for National Statistics


HSC
Public Health Agency


10 DOWNING STREET
LONDON SW1A 2AA


NHS
Business Services Authority


Local
Government
Association


UK Parliament


HSC
Business Services Organisation


The Scottish Government
Riaghaltas na h-Alba


Cabinet Office


ASSOCIATION OF DIRECTORS OF PUBLIC HEALTH


Public Health Scotland


NHS
National Services Scotland


NHS
Digital


World Health Organization


GIG CYMRU NHS WALES
Iechyd Cyhoeddus Cymru
Public Health Wales


NHS X

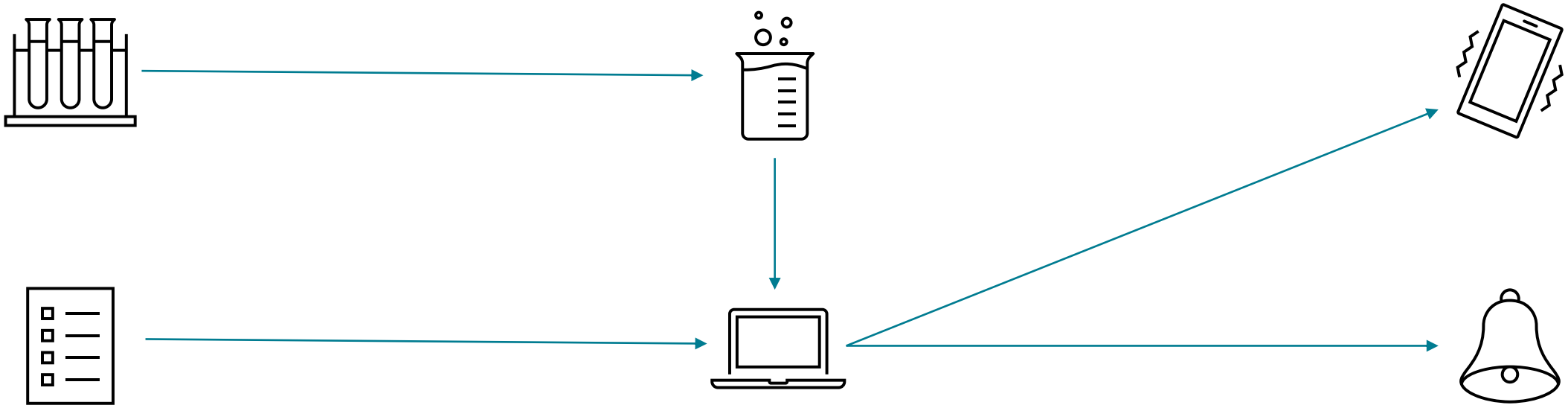

Llywodraeth Cymru
Welsh Government


GIG CYMRU NHS WALES
Gwasanaeth Gwybodeg
Informatics Service


RCGP


BMA

# Data flows



# What we did

Implemented a sensible approach to information governance and minimising the use of personal data

Established a minimum national dataset

Sent data (identifiable and/or pseudonymised) to:

- NHS Digital
- Public Health England
- NHS England
- Health records
- Office for National Statistics
- Local authorities

Sent results out to individuals in a different way

Built an analytics platform with dashboards for key metrics

Implemented a demand management system, prioritisation and triage to be able to meet requests and collaborate with others

Continually improve the service, e.g. to improve user experience, improve data quality

Collaborations to work on specific data issues, e.g. deduplication, matching to health records.

# Data Challenges

## Claim 1. Matt Hancock: "The average distance travelled to a test site is now just 5.8 miles"

The health secretary made this claim in the House of Commons - last week, he said the average distance was 6.4 miles.

Initially, the Department of Health and Social Care (DHSC) did not release the data on this - despite our repeated requests to see it. **Now it has released some of it.**

It supports Mr Hancock's claims. It states that the median distance travelled (that's the point at which half the trips were shorter and half longer) in England in the last week was 5.8 miles. This was down from 6.4 miles the previous week.

It also shows that the 5% of people travelled more than 47 miles away for a test - that would make a round-trip of 94 miles. **How far are people travelling to get tested?**

It counts trips made to regional test centres, local walk-ins and mobile test units.

A million-row limit on Microsoft's Excel spreadsheet software may have led to Public Health England misplacing nearly 16,000 Covid test results, it is understood.

The data error, which led to 15,841 positive tests being left off the official daily figures, means than 50,000 potentially infectious people may have been missed by contact tracers and not told to self-isolate.

PHE was responsible for collating the test results from public and private labs, and publishing the daily updates on case count and tests performed.

But the rapid development of the testing programme has meant that much of the work is still done manually, with individual labs sending PHE spreadsheets containing their results. Although the system has improved from the early days of the pandemic, when some of the work was performed with phone calls, pens and paper, it is still far from automated.

**The Government has hit its target of 100,000 coronavirus tests per day.**

Chairing the daily Downing Street press briefing Matt Hancock hailed the milestone as an 'incredible achievement'. The health secretary said 122,347 tests were performed in the 24 hours up to 9am on Friday.

But questions have been raised over how the tests have been counted, with changes in the last few days meaning newer home test kits have been counted as they are dispatched.

The overall total also includes tests dispatched to 'satellite testing locations' – such as hospitals that have a particularly urgent need – but does not detail whether the tests have actually been used.

**More than 1.3 million coronavirus tests have been quietly removed from the Government's data because of double counting.**

In an update on Wednesday it said 'an adjustment of -1,308,071 has been made to the historic data for the "tests made available" metric'.

That was the 'result of more accurate data collection and reporting processes recently being adopted within pillar 2' – involving tests that take place outside hospitals, such as swab tests carried out at drive-through centres and care homes – and a 'subsequent recalibration' of data reported between March 29 and August 11.

The Department for Health and Social Care (DHSC) said there had been 'a double-counting of test kits that had been dispatched' which had not been removed from the lab's processed data.

## COVID-19: Woman sent another person's coronavirus test result by NHS Test and Trace

Claire, from East Sussex, got two texts from the NHS with another woman's name, date of birth and test result.

## One in eight Covid-19 cases were recorded in the WRONG location due to Test & Trace blunder that listed students' positive tests at their parental homes

- **Error spanned the six weeks before Britain entered three-tier lockdown system**
- **Students' positive results were mistakenly connected to their parental homes**

Local outbreaks of Covid-19 could grow undetected because the government is failing to share crucial testing data, council leaders and scientists have warned.

More than a month after being promised full details of who has caught the disease in their areas, local health chiefs are still desperately lobbying the government's testing chief, Lady Harding, to break the deadlock and share the data.

# What did we achieve?

- At its peak, processing 1.8 million tests a day and 291,000 per hour
- As of 18th May, we had done almost 443m tests in the programme, out of almost 552m done in total nationally
- Automation of non-NHS performed test results into GP results for the first time
- Data was available for official statistics publications that could be published every week, improving transparency
- Data from across the UK was available for our UK coronavirus dashboard, which often has around 1 million unique users per day and an average of 70m daily hits
- Developed infrastructure that can be repurposed in the future

# Looking forwards



Policy paper

**Data saves lives: reshaping health and social care with data (draft)**

Updated 10 February 2022

Contents



## Ministerial foreword

When facing the greatest public health emergency that this country has tackled for generations, one of the most impactful tools at our disposal was the power of data. With the facts, data, and science at our disposal, we can provide the meaningful and measurable results that the public deserves.

Data identified those who are most vulnerable to coronavirus. It helped us to help them shield, which protected both themselves and their families.

Data was essential to our day-to-day response.

And it powered vital research that helped us discover new treatments that saved lives in communities across the world.

Better, broader, safer: [Better, broader, safer: using health data for research and analysis - GOV.UK (www.gov.uk)]

Data saves lives: [Data saves lives: reshaping health and social care with data (draft) - GOV.UK (www.gov.uk)]