



BCS Primary Health Care specialist group

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I am a recent post-graduate in MSc Data Science and Analytics with specialised interest in Artificial Intelligence, this was obtained right after by BSc in Computer Science. Throughout my career, I have spent the majority of my time working on software projects that help in our community such as chatbot to help with medical conditions using NLP or creating machine learning models to analyse chest infection on COVID-19 positive reports.

While studying, I have also been actively working at Premier Medical Centre (PMC) as Digital Transformation Lead. I have taken onboard a number of projects within general practice to improve and enhance not just patient care but also practice efficiencies. Hence, the journey of GP Automate alongside the founder *Dr Arun Notaney*.

General practice has been struggling with workload issues for many years. *In 2016 84% of GP's surveyed by the BMA described the workload as excessive & prevented the quality & safe delivery of care. More GP's burnt out over the pandemic than ever before and there is talk of 19000 GP's quitting the profession in the next 5 years.*

Robotic Process automation has been shown to remove work and save man hours across multiple industries. "*The Future of Healthcare: Computerisation, Automation and General Practice Services*" - June 2022 looks specifically at the scope and the scale of automation in general practices in the UK. GP Automate uses robotic process automation (RPA) software to carry out mundane tasks that take up a massive amount of time in daily work life. Carefully mapping each process and steps within clinical systems such as EMIS and Accurx, we have developed 9 "bots" that are already saving over 4 hours of workload every day by automation tasks in GPs.

This was obtained by deploying 3 of the products in Premier Medical Centre and other pilot practices (lab reports, new patient registration and Accurx floreys), saving on average 75% of staff time and cost savings of £9.70 per patient per year. Morale and job satisfaction amongst staff members have significantly improved by removing such mundane, repetitive tasks. The redeployment of staff has allowed the practice to prioritise childhood immunisations and increase uptake across all age groups <6 years old on time with less delays. Compared to the same point last year, PMC has increased uptake by >50% in both children for Primary and 1-year immunisations. Below is some of the data analysed for 8 week since first deployment.

Normal lab reports:

GP Automate has saved over 250 hours of clinical time since deployment in the pilot practice by actioning normal lab reports. This has taken work away from doctors who normally review those results (usually costing >£100 an hour). GP Automate reviews normal reports, sends a custom message to patients via SMS and files the results in the notes without any human input.

- On Average 76% of all normal lab reports are being processed daily by GP Automate.



- At its quickest, 201 lab results were in action in 47 minutes.
- >99% accuracy of all reports actioned including patients with non-diabetic hyperglycaemia and vitamin D insufficiency.
- Since its inception, >22,000 lab reports have been actioned

GP Automate enables GPs to do more meaningful work by removing workload and saving time and money. We now pilot in 3 practices and are already saving >1.5 hours/day of doctor's time.

New patient registrations:

GP Automate completes a multi-step workflow, ensuring a higher percentage of correct registrations.

With our custom-built registration form, we have mapped the process to register a higher percentage of patients on EMIS Web with more successful data. We use an NHS finder and an Address API to clean the data entered by patients.

Our automation technology then takes the data and uses complex algorithms to either register the patient or request practice intervention to verify data (including missing digits on an NHS number or a registered guardian for a child). This ensures more successful registrations.

- >500 registrations have been automated in the last 2 months.
- Up to 3 hours each day have been saved.
- Up to 55% of patients can be successfully registered with no practice or human intervention.
- Following practice intervention >95% of registrations are correctly registered.
- 100% accuracy in clinical coding of ethnicity and country of birth.

Data from *The Department of Health and Social Care* suggests a successful new patient registration can take anywhere from 15-30 minutes. GP Automate can complete each registration within 1.5 minutes.

GP Automate has shown to improve practice efficiencies removing mundane work, it has allowed the job satisfaction of team members to increase and allow more junior members of the team to develop their skills and take more of a leadership role. On the clinical side, by taking care of manual processes, staff have more time to focus on better clinical outcomes and patient care.

The feedback from other GPs who have used the software suggest that “they can never turn back to the old way of working” after deploying our automation software. The time and cost savings are already having a significant impact on practices and a roadmap of new automations designed for the NHS is rolling out to improve the long-term sustainability of primary care practices and networks.