Healthtech-1 for automated primary care registrations

Context

Typically, the primary care patient registration process involves a practice administrator manually inputting information provided through a standardised registration form onto the local electronic patient record (EPR) system. This takes approximately 15 minutes per registration – time that could instead be used for more productive tasks. Healthtech-1 (HT1) streamlines GP registration by automatically generating and completing patient profiles on the EPR system using a customisable 'local form' inquiring on a wide range of patient details, paired with the standard patient registration form. This ensures comprehensive SNOMED coding and eliminates manual data entry.

The 'Signals' feature alerts practice staff to safeguarding issues, health concerns, and key patient details requiring attention. Healthtech-1 is currently implemented in over 1,600 practices across England, including 87 out of 99 GP practices in Surrey.

Unity Insights was commissioned by Health Innovation Kent Surrey Sussex to perform a quantitative and health economic evaluation of Healthtech-1, leveraging EMIS data from 15 sites in Surrey.

Health economics

A cost-benefit analysis was conducted in order to assess the value generated by Healthtech-1 to the healthcare system. Three scenarios were modelled, (1) to demonstrate the benefit realised for 15 selected sites in Surrey Heartlands ICB adopting Healthtech-1, (2) to demonstrate the potential benefits if all sites in Surrey Heartlands adopted Healthtech-1, and a further scenario (3) if all of Surrey Heartlands ICB and Sussex ICB adopted Healthtech-1 . The methods to calculate the potential benefits are provided below.

Scenario 1: Selected sites in Surrey
2025/26 to 2029/30

£65k	1.48
Net present value	Benefit-cost ratio

Scenario 2: All GP practices in Surrey
2025/26 to 2029/30

£287k	1.48
Net present value	Benefit-cost ratio

Scenario 3: All GP practices in Surrey and Sussex
2026/27 to 2029/30

£679k	1.58
Net present value	Benefit-cost ratio

Benefits

Reduction in admin time

HT1 completely automates a majority of registrations on its platform, with a minority requiring reduced attention from practice staff.

Reduction in A&E attendances

People registering at a GP in order to seek an appointment are less likely to attend A&E instead if their appointment comes sufficiently soon.

Costs

License costs

Every registration processed by HT1 consumes a license. These licenses can be bought in bulk, with larger packages providing cheaper prices per license.

Training costs

Some staff at adopter sites are required to attend a 1-hour virtual training webinar before HT1 is fully implemented.

Survey results

Reduction in admin time

Healthtech-1 delivers efficiencies and potential economic value by automating patient registrations. Instead of administrators manually creating profiles and entering data, the system completes these steps automatically, freeing up staff time for other tasks.

85%

Registrations in Surrey Heartlands ICB automated without any administrator action required. Overall, 97% of HT1 registrations are automated.

A survey was shared amongst practice staff in Surrey Heartlands ICB and Sussex ICB to capture the time difference required to register a patient prior to the implementation of Healthtech-1 and after Healthtech-1 when administrator intervention may be required.

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Number of minutes saved per registration requiring administrator intervention following the adoption of Healthtech-1

Quantitative data

SNOMED coding

Healthtech-1 was found to demonstrably improve SNOMED coding upon registration among a number of datapoints, including alcohol screening, ethnicity, and smoking status.

While patients registering using Healthtech-1 were seen to have higher coding completeness rates among hypertension, carer status, and smoking cessation offering, uncertainty about true background prevalences between subcohorts prevented conclusions from being drawn.

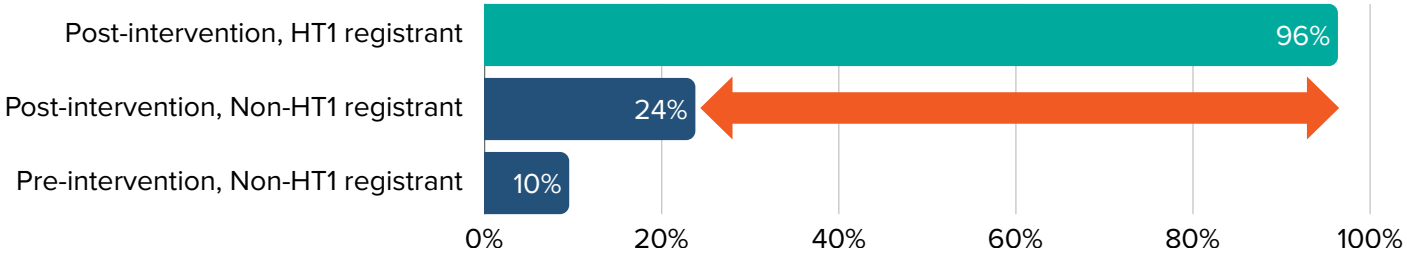

Figure 1: Percentage of registrants with an associated SNOMED ethnicity code upon registration.

Figures 1 and 2 demonstrate examples improved coding completeness at sites using Healthtech-1. Among patients registering via the platform, 96.4% (n = 9,243) had an ethnicity SNOMED code and 75.9% (n = 7,280) had an alcohol screening SNOMED code, compared with substantially lower recording among non-Healthtech-1 registrations in both the pre-intervention (9.6% and 21.9%) and post-intervention periods (23.8% and 24.0%), respectively. This improved capture of structured data supports more accurate identification of patient risk factors and enhances the ability to segment populations for targeted interventions. In turn, greater coding completeness strengthens the reliability of population health management and reduces the risk of unmet need being obscured in routine data.

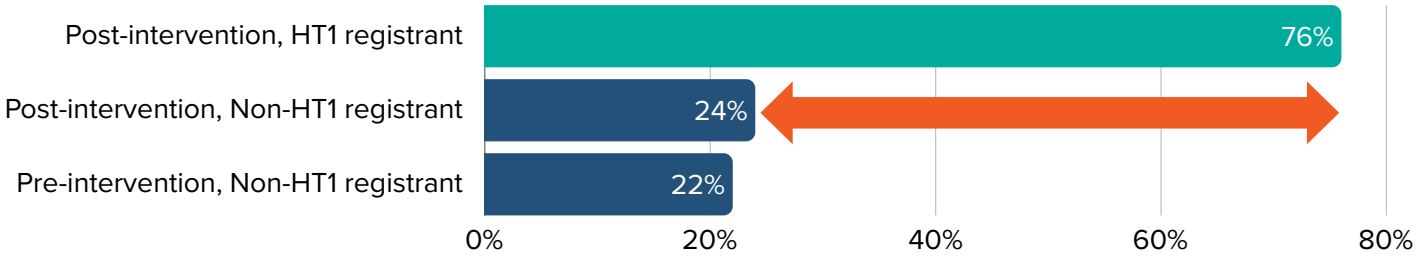

Figure 2: Percentage of registrations recording an alcohol screening activity SNOMED code upon registration

Time-to-activity

Analysis of EMIS appointment data identified that registrants using Healthtech-1 showed marginally longer average time-to-first-appointments than non-HT1 registrants at adopter sites.

Table 1: Average days waits between registration and first appointment.

First-appointment timeframe	HT1 registrants	All others - adopter sites	All others - non-adopter sites
14-day max	5.92	4.80	6.12
30-day max	11.93	10.53	11.58
60-day max	20.99	18.94	21.39

This trend remained for time-to-prescription and time-to-intervention measures. Similarly, a lower proportion of HT1 registrants received an appointment within two days of registering than non-HT1 registrants at adopter sites. These trends were hypothesized as being the result of three factors affecting sampling bias:

Table 2: Percentage of registrants receiving an appointment within two days.

Cohort	Percentage receiving in appt. within two days
HT1 registrants	6.6%
All others - adopter sites	11.1%
All others - non-adopter sites	7.2%

Older and more deprived populations are more likely to register in person due to lower digital literacy, and have more urgent health needs.

People who register in person are both more likely to need care urgently, and can express this more effectively.

The additional data provided by those registering with HT1 leads to a reduction in uncertainty and ‘defensive medicine’ behaviours among staff.

Unmodelled benefits

A number of monetisable benefits were deemed to be reasonable consequences of implementing HT1 in primary care, however, it was infeasible to model many of these benefits due to issues of data availability and data specificity. If these benefits were modelled, the predicted value generated by HT1 would reasonably be higher than described by previous health economic results.

Improved short-term quality of life

A proposed benefit of HT1 is that it allows for a more effective triage of patients who may be requesting clinical attention upon registering; the additional information provided by patients through HT1 means that practice staff can more confidently decide which registrants have more urgent health needs, thus giving them more urgent appointments, and reducing their wait-related anxiety.

Improved long-term quality of life

This improved patient triage means that patients with more urgent health needs will be attended to before their health deteriorates considerably, improving long-term outcomes. Furthermore, the facilitation of population health management-type interventions (as informed by increased patient data) means that preventative interventions such as screening programs can be provided across large geographies.

Reduction in secondary care activity

These early-stage, preventative interventions being provided in primary care means that patients will have their conditions more effectively managed. This will reduce the deterioration they experience, meaning they will require less intensive interventions, which typically are delivered in secondary care settings and cost more than in primary care.

Conclusion

Healthtech-1 improves clinical coding upon registration among many key datapoints. Registrants using HT1 exhibited longer times-to-intervention on average than their counterparts, a trend which may be explained by various sampling biases. The potential monetary benefits generated by HT1 exceed associated costs, with around £1.48 being generated for every £1 spent, driven primarily by staff time savings in the registration process.

This document accompanies a full evaluation report that includes all assumptions and limitations of the evaluation.