NHS Digital

NHS Digital COVID-19 Update

30 April, 2020

Information and technology
for better health and care

NHS Digital COVID-19 Update – 30 April, 2020
Specific new initiatives and key areas of movement in the last two weeks

NHS Digital

- **Major agreements have been reached enabling NHS Digital to improve real-time access to patient information**
  - **Summary Care Record (SCR)** – "additional information" from the GP record, including medication details, long-term conditions and new COVID SNOMED codes, will be automatically uploaded to the SCR, following agreement on an implied consent model for the COVID-19 period. Clinicians in secondary care and other authorised health and care staff including pharmacists will be able to view the additional information.
  - **GP Connect** – national roll out to enable record-sharing and appointment booking across GP practices and 111 services is underway. GPs will now be able to view the full record of patients registered with another practice, and 111 call centres will be able to make bookings into GP practices; this major acceleration was enabled by receiving support for a national data sharing agreement for the COVID-19 period

- **NHS Digital is playing a central role in delivering digital infrastructure for 'new' COVID-19 testing routes**
  - A service for essential workers to request and book tests online from drive-through test centres, mobile units or home kits was launched by government to increase access to testing. NHS Digital led the build and deployment of the front-to-back digital platform from test ordering through to sample tracking and results dissemination.

- **We are supporting research and planning with secure access to data and analyses**
  - **ICU Capacity Planning tool** – partnered to develop a machine-learning tool to predict ICU bed and ventilator demand; pilot live in 4 sites
  - **Trusted research environment for SAGE** – endorsed by the Science Advisory Group for Emergencies to provide a Trusted Research Environment with views of datasets prioritised by HDR UK and NIHR to drive COVID-19 research insights

- **NHSX is proceeding with trials of its COVID-19 Contact Tracing (CCT) App**
  We have been asked by NHSX to put the contact tracing app through all the normal assessments and approvals required prior to promoting any app to the NHS Apps Library. Our CISO will also provide standard security monitoring services for the application. We have had no involvement in the design, development or operation of the CCT App.

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NHS Digital COVID-19 Gold Report – 30 April, 2020
Overview of initiatives in support of the COVID-19 strategic focus areas

NHS Digital

- ☐ Major milestone reported in Executive Summary
- ☐ Significant milestone reported in this update
- ☐ Work ongoing
- ☐ Work complete

COVID-19 Strategic focus areas

| Strategic focus area	Initiatives NHS Digital is delivering
Provide digital channels for citizen guidance and triage (p.4)	**111 Online:** eTriage and routing of patients to most appropriate care · **NHS App:** mobile access to eTriage and GP bookings, tests & prescriptions · **NHS.UK:** up-to-date health information and various digital services for citizens · **NHS Login:** secure identity verification for access to App and other NHS services · **NHS Pathways:** triage algorithms underpinning 111 online & call centres · **Self-Isolation Notes:** digital service to self-certify for COVID-19 if evidence required
Enable remote and collaborative care with systems and data (p.5-6)	**Summary Care Record:** augmentation for COVID-response · **GP Connect:** information sharing across primary and urgent care · **Electronic Prescription Service (EPS):** pharmacy flex and additional drugs · **Video-consultations for Primary Care:** assurance and rollout to >90% of practices · **Video Consultations for Outpatients:** rollout/implementation support to NHSE · **Microsoft Teams Deployment:** deployment to 1.2m NHS Mail users · **NHS Mail for health and social care:** rollout to social care and other new users
Increase COVID-19 Test access and process efficiency (p.7)	**Digital platform for booking tests at new COVID-19 labs** · **Testing data capture, analysis and dissemination**
Identify and protect vulnerable citizens (p.8)	**Shielded Patient List (SPL):** developed & maintaining list of vulnerable patients · **Data visualisation for SPL:** open data / visualisation for public consumption · **Vulnerable children:** support safeguarding by sharing data with nurses, health visitors
Support planning with data, analysis and dashboards (p.9)	**ICU Capacity Planning Tool:** new predictive models for beds & ventilators · **Ethnicity Outcomes Analysis:** analysis to investigate high BAME fatalities · **Diabetic risk factors:** linking data from national audit to support analysis · **Social Care SitRep:** prototyping daily collection: illness, testing & PPE · **Secondary Care SitRep:** data on COVID-19 patients and staff impacts · **NHS.UK Survey:** collects status and feedback from COVID-19 patients
Get data and insights to research communities (p.10)	**Trusted Research Environment for SAGE:** with NIHR/HDR UK · **Central Disseminator of GP Data for research and planning** · **NICOR:** analysis for cardiovascular status / outcomes and COVID-19 · **Data Access Environment for PHE:** accelerating epidemiology
Support clinical trials (p.10)	**Plasma Trial:** identification of eligible (recovered COVID-19) patients · **RECOVERY Trial:** providing hospital and testing data for trial evaluating treatments · **PRINCIPLE Trial:** primary outcome data for trial focused on older people
Provide secure infrastructure and support additional capacity (p.11)	**Connectivity:** network upgrades and extensions within NHS and social care · **Nightingale Hospitals:** connectivity, technical / cyber assurance · **Fast and secure authentication:** smartcards/readers, virtual smartcards · **Returning Staff:** advice and technical support for onboarding · **VDI environment for Primary Care:** virtual desktop to enable GPs to work remotely · **Other infrastructure and cyber support:** e.g. Laptops, cyber plans · **Your NHS Needs You:** survey for recruitment of returning clinicians
Plan for recovery, restarting services and new needs (n/a)	**"Healthcare debt" monitoring:** analysing activity, referrals & outcomes

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Providing digital channels for citizens to access information and guidance, self-manage and be routed to the most appropriate care, minimising contact and reducing the burden on clinical staff
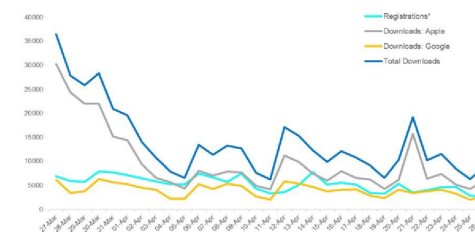
Services	Focus area	Deliveries and impact
111 Online	Clinical algorithm	• Paediatric clinical algorithm updated on 23 April in response to concerns that parents are not seeking emergency care for children even when needed (e.g. fever or other potentially dangerous symptoms). Children aged 5-16 are now triaged through the non-COVID pathway or parents directed to ring 111 to ensure appropriate medical attention is sought
	Text Messages for isolating patients	• Optional text message subscription service launched on 27 March providing patients who are self-isolating with information on relevant services and gathering feedback on symptoms. Updated 17 April to verify mobile number through use of a one-time verification code, protecting the service against scripted attacks and addressing potential issues with manual data entry
NHS App	Integration of 3rd party triage (eConsult)	• Roll-out completed for ~1k practices as at 27 April and integration for all 2.5k eConsult practices in England to complete by 1 May. Patients at practices using eConsult will now be able to submit symptoms or requests for support through the NHS App on a mobile device and receive appropriate triage or referral prior to a consultation, making best use of strained clinical capacity
	Electronic Prescriptions	• NHS App and EPS updated to enable patients to change the pharmacy to which their medication is usually sent; >14k patients have used the functionality since launch 3 April. The outbreak created an urgent need for patients to be able to change their nomination if their pharmacy was closed
NHS.UK	Health-at-Home	• New "Health-at-Home" pages launched 9 April to support NHSX social media campaign encouraging use of online health services as part of the system response. Central landing page provided information about how to remotely contact GPs (including video guidance), order repeat prescriptions, manage long-term conditions and maintain wellbeing; directed patients to relevant information and services. 13k visits and 500 video views during campaign 9th – 14th April

COVID-19 triage continues to drive 111 online volumes but has reduced in April

111 online sessions by content type

■ COVID-19 only ■ COVID-19 & other 111 triage ■ Other non COVID-19 triage ■ No content selected
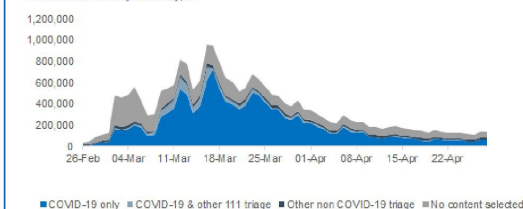
NHS App registrations are steadying to the low thousands per day from a peak of ~80k
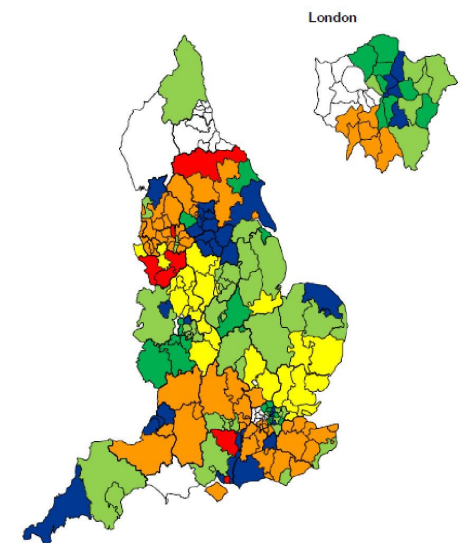

Total number of NHS App registrations stands at 575k

Making data and systems available to enable remote and collaborative working by health and care staff, minimising transmission and managing strained capacity (e.g. with practices closed or staff unwell)

Services	Focus area	Deliveries and impact
Summary Care Record (SCR)	Access to additional patient information	• Reached agreement to automatically include additional information from the GP record in the Summary Care Record where patients have not opted out; will enable clinicians and authorised staff in secondary care, pharmacy and ambulances access to extended data for ~40-50m patients including long-term conditions, care plan information and other factors at the point of care. • The change from an explicit "opt-in" consent to assumed consent for all citizens other than those who have dissented went live 27 April and will be in place for the duration of the outbreak. Bulk uploads of data from GP Record to SCR commenced 27 April and will take some time to complete due to volumes
	COVID Flags	• New COVID-19 SNOMED* codes are being added to the SCR Additional Information dataset to capture suspected or confirmed COVID-19 status from GP systems. GPs have been instructed to record whether a patient is assumed to have had COVID-19, whether a patient has been tested, and whether the patient is at risk of medical complications should they contract the virus.
GP Connect	Access to patient information	• Reached agreement 24 April for a National Data Sharing Agreement for GP Connect to be in place for the duration of the outbreak; supported by BMA, RCGP, ICO and National Data Guardian, meaning patient records can now be accessed by any licensed system (previously access was restricted to providers with local, point-to-point data sharing agreements). This enables a patient's records to be accessed wherever they present, including at other practices or 111 COVID-19 Clinical Assessment Service (CCAS) and GPs can see records of patients outside their practice if needing to work remotely. Allows safer and more timely care, and the flexibility to manage strained system capacity. • COVID-19 codes from 111 CCAS Triage will be written to the GP record as a structured message and practices alerted. TPP solution delivered, EMIS and Vision expected by 9 May.
	Cross-setting bookings	• GP Connect Appointment Management API national roll-out continues, enabling users in 111 call centres to book appointments at GP practices or other specialist centres. Currently technically live at 95% of practices, and 45% of practices have used the service

GP Connect national roll-out is in progress

London

Key	
No GP Plans	No local engagement with GP Connect IBC Team
Engagement Started	Engagement with IBC is progressing in early stages
Plans and Actions Progressing	DSAs are being collated and EOUD is underway
Deployment Started	GP Sites have been enabled technically
>50% GPs Technically Live	More than half of sites in a CCG are technically live
>95% GPs Technically Live	More than 95% of sites in a CCG are technically live
Proprietary Solution	Confirmed therefore out of scope for GP Connect

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Making data and systems available to enable remote and collaborative working by health and care staff, minimising transmission and managing strained capacity (e.g. with practices closed or staff unwell)

Services	Focus area	Deliveries and impact
Electronic Prescription Service (EPS)	Identity services	• Locum pharmacists need to be able to work at different locations if their pharmacy closes. Additional codes added to Professional Identity services on 3 April – has enabled >6k locum pharmacists and ~200 pharmacy technicians to work at alternative locations as of 27 April
	Primary Care beyond GP	• EPS enabled for >600 non-GP primary care sites such as urgent care centres and extended access hubs using TPP or EMIS, benefitting ~12k community pharmacies (completed 6 April). This change reduces patient contact and improves overall system efficiency
	Controlled Drugs	• Enabled EPS to support schedule 2&3 Controlled Drugs for urgent care providers using Advanced Solutions (73% of urgent care market). This enables medicine to be delivered to vulnerable patients in care homes (delivered 31 March)
	Automated Pull-back	• Introduced (on 6 April) mechanism for retrieving prescriptions from a selected receiving pharmacy having downloaded from Spine. This enables prescriptions to be fulfilled at alternative locations if the patient's nominated pharmacy is closed
	Paramedic prescribing	• Paramedics in general practice provided with the option to prescribe via EPS. TPP enablement complete 24 March with EMIS enablement due to complete by 8 May
Outpatient Consultation	Attend Anywhere	• Attend Anywhere solution procured by NHSX for outpatient consultations. NHS Digital team supported deployment and provided post-implementation support for 183 trusts. ~15,500hrs of virtual consultations held as of 27 April. Support will be transitioned to NHSE Regional Teams by 30 April
MS Teams	Collaboration Tools	• NHS-wide roll-out for MS Teams completed 16 March. Enhancements being implemented to further facilitate collaboration. Meeting recording functionality made available to all users on 30 April. ~4k PTSN licenses allocated to enable inbound and outbound calling via MS Teams (as of 27 April)
NHS Mail	Account provision	• Provision of NHS Mail accounts into social care and other settings enables secure communication by replacing faxes and letters. As of 24 April, ~21k accounts had been created for ~9.4k care sites (incl. Care Homes, Domiciliary Care & Hospices) and for ~100 Urgent Care Dental Practices

EPS update to enable change of nominated pharmacy (including via NHS App) is increasing nominations
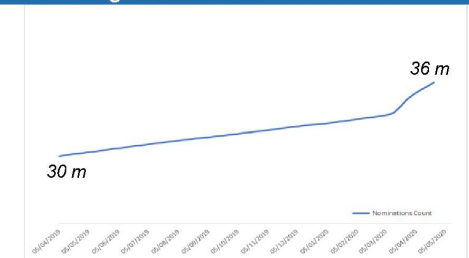
National EPS nominations per week for pharmacies in England, April 2019 to April 2020

NHS-wide use of MS Teams for meetings, calls and chats continues to increase

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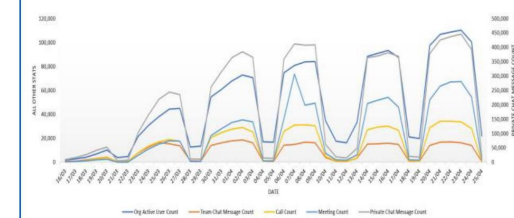
Increasing COVID-19 Test access and process efficiency through provision of digital infrastructure for drive-through test centres, roaming test vans and home testing services to support the Ministerial target of 100k tests per day.

Services	Focus area	Deliveries and impact
Digital Platform for booking tests at new COVID-19 labs	Essential Workers	• Led the build & deployment of a digital platform with partners to support expanded access to COVID-19 tests from "new" facilities outside of PHE and hospital-based testing • Delivered the service from design to live within 1 month including: employer portal for Trusts to bulk refer staff, self-referral portal for essential workers and their families, appointment booking facility, ordering facility for home test kits. Developed test centre applications to improve error rates by supporting association between individuals and test vials, test data repository, subject result matching and result notification. • Established a product strategy and target architecture to establish future direction of the service, including leading design of new services to allow essential workers and citizens to refer themselves for testing. • Self-referral service for essential workers was launched on 25 April on GOV.UK; site was accessed by 46k users within a few hours of launch and enabled booking of 16k appointments and ordering of 5k home test kits before being closed due to demand for tests outstripping supply of appointments and test kits • On 29 April, over 45k digitally booked appointments took place at test centre sites. In addition, over 15k home testing kits were issued within 1 hour.
	All Citizens	• Integration between 111 Online and testing service delivered within <24hrs on 30 April to enable symptomatic citizens to book a test following a "possible COVID-19" disposition. • Eligibility widened to include symptomatic citizens over 65 and symptomatic citizens who travel to work on 30 April, leading to a sharp increase in volume. • Strategic self-referral platform for all citizens is underway with go live w/c 18 May

NHS Digital led on digital platform for out-of-hospital testing for key workers

👑 **GOV.UK**

COVID-19

ALPHA This is a new service – your feedback will help us to improve it.

Essential workers: apply for a coronavirus test

If you're an essential worker who is self-isolating (not able to leave home), you can now apply for you and your household to get tested for coronavirus (COVID-19).

If your test result turns out to be negative, you can safely return to work, as long as:

- you are well enough
- you have not had a high temperature for 48 hours
- anyone you live with also tests negative

If your test result is positive, or someone you live with tests positive, you cannot return to work. You'll need to continue to self-isolate. Read NHS advice about how long to self-isolate.

Identifying and protecting vulnerable citizens, to ensure that they can be shielded or receive additional support

Services	Focus area	Deliveries and impact
Shielded Patient List (SPL)	Identifying vulnerable citizens	• The Shielded Patient List (SPL), which identifies patients judged to be at the highest risk based on CMO criteria, currently stands at 1.8m patients based on the third version of the list, issued 19 April. This compares to 1.3m patients in the second version of the list, and is due to the addition of lists of vulnerable patients from Trusts and GPs • Future updates to the list will include feedback from reviews of the list by GPs and Trusts to ensure their patients are correctly classified, and a request from CMO England to include patients on dialysis which will require an update to the clinical algorithm used to generate the list. • Updated lists will be issued to Cabinet Office (who themselves then share elements with DWP and Local Authorities) and to CCGs, prison health services and others
	Protecting vulnerable citizens	• Healthcare professionals are able to view if a patient is on the NHS Shielded Patient List from within the Summary Care Record application. This was provided to all users on 24 April and within 3 days had >91k views for 71k patients
Vulnerable Children	Child Protection Information Service	• School Nurses and Health Visitors need to adapt safeguarding provision during social distancing. CP-IS was amended to enable sharing of information on vulnerable children during COVID-19. Initial extract provided to listed contacts on 14 April; next extract planned for 30 April

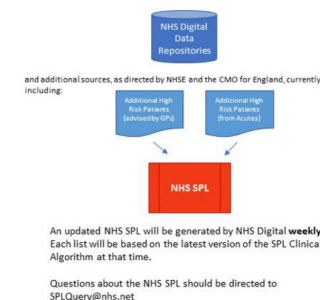**NHS Digital has published the algorithm underpinning generation of the SPL**

The SPL Clinical Algorithm is developed by NHS Digital at the direction of the CMO for England.

The SPL Clinical Algorithm is published openly at https://digital.nhs.uk/coronavirus/shielded-patient-list/methodology

New versions of the algorithm will be issued if directed by the CMO for England, and published at the above address

**NHS Digital aims to publish updated versions of the SPL on a weekly basis**

NHS Digital Data Repositories

and additional sources, as directed by NHSE and the CMO for England, currently including:

Additional High Risk Patients (advised by GPs)

Additional High Risk Patients (from Acutes)

NHS SPL

An updated NHS SPL will be generated by NHS Digital **weekly**. Each list will be based on the latest version of the SPL Clinical Algorithm at that time.

Questions about the NHS SPL should be directed to SPLQuery@nhs.net

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Providing data, analysis & dashboards to help the system understand the prevalence and spread of infection & manage capacity

Initiative	Focus area	Deliveries and impact
ICU Capacity and Planning tool	Machine Learning based Data Analysis	• Machine learning tool developed in partnership with researchers at Cambridge University to predict ICU demand for ventilators, beds and equipment. Approved by COVID-19 Board for pilot at 4 sites starting on 20 April. Pilots will enable fine tuning ahead of full rollout. • The "Capacity Planning Analysis System" (CPAS) is based on non-identifiable data from PHE - Covid-19 Hospital in England Surveillance System (CHESS) - and produces aggregated forecasts at national, regional and trust-level. Data quality issues have been observed; these are to be addressed through linkage with further datasets
Ethnicity and Outcome Analysis	Data Analysis	• Rapid investigation completed on potential associations between ethnicity and poorer COVID-19 outcomes in BAME individuals in response to multiple requests (incl. HDR UK, CMO England). Initial findings shared with CMO and PHE. Joint review being conducted with PHE to compare with findings from separate PHE analysis and agree next steps.
Diabetic risk factors	Data Analysis	• Linked National Diabetes Audit data with intensive care data to enable analysis of diabetes as a risk factor for susceptibly to COVID-19 and potential association with poorer outcomes. Initial findings discussed with NHSE/I on 22 April
Social Care SitRep	Data Collection and Reporting – residential & domiciliary care	• Established a mechanism for daily collection of aggregate count of impact of COVID-19 on care home residents, service users and staff, in response to challenges observed in collecting data from care homes • Pilot collection would cover ~6,000 care settings (~15% of market). Discussion underway with DHSC, CQC, and NSHE on approval to proceed with pilot collection.

CPAS provides an overview of key demographic data and co-morbidities…
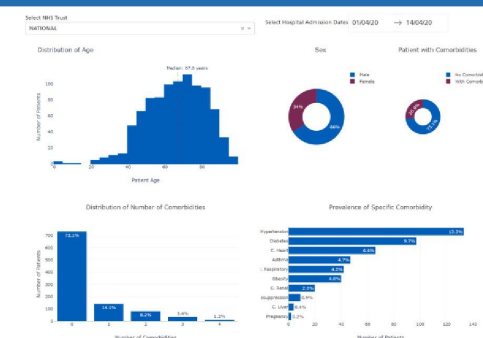
… and predicts likely admission rates, mortality and length of stay
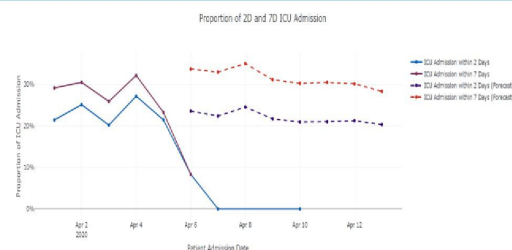
CPAS relies on historic data: accuracy of predictions is highly correlated with quality of data provided by PHE

- *Facilitating the sharing and availability of data and analyses to support research, enabling evaluation of different response interventions and increasing understanding of COVID-19 transmission, immunity and clinical outcomes.*
- *Enabling acceleration of COVID-19 Drug and Vaccine clinical trials.*

Services	Focus area	Deliveries and impact
Enabling Research	Trusted Research Environment for SAGE	• Scientific Group for Emergencies (SAGE) endorsed proposal for NHS Digital to provide the Trusted Research Environment for COVID-19 for England. • Work ongoing to rapidly mature Data Processing Services (DPS) to provide views on core data sets prioritised by HDR UK/NIHR. SUS+, CHESS, SGSS, PCPM data sets have been loaded into DPS and are being linked. NPEx (testing) and GP Data are being sourced. New analytical tools and enhanced web-presence are being developed.
	GPES Data for research and planning (COVID-19)	• Conversations ongoing with stakeholders for NHS Digital about disseminating GP data for vital planning and research to support COVID-19 response • Approach to reduces burden on GPs to ensure legitimate, controlled and proportionate data release.
	National Institute for Cardiovascular Research (NICOR)	• Supported research questions jointly prioritised by NICOR and British Heart Foundation on impact of lock-down and medicines that might increase susceptibility. Used SUS+ (weekly acute activity) for the first time in NHS Digital analysis for NICOR, and linked SGSS to Primary Care Medicine for BHF. • Under COVID-19 Direction, transfer of 6 NICOR datasets (covers ~3m patients) to NHS Digital completed 18 April. First analysis on SUS+ presented by Prof Colin Baigent (Oxford) on 27 April, and going to SAGE on 5 May.
Clinical Trials	Plasma Trial	• Identified ~8,000 recovered COVID-19 patients whose serum could be potentially provided to critically ill COVID-19 patients as part of a therapeutic trial, and shared linked dataset with NHS Blood and Transplant (NHSBT) who are leading the trial • Demographic data was linked to test and intensive care data with specific exclusions agreed by NHSBT and NHS Digital (i.e. national data opt out, age, S-flag, Shielded Patients List)

NHS Digital Identified ~8000 Patients for Recruitment into NHS Blood & Transplant Clinical Trial for Therapeutic Plasma

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Providing secure infrastructure and supporting additional care capacity through support and logistics for cross-system data access, fast-authentication of new users, Nightingale hospital facilities and private providers

Services	Focus area	Deliveries and impact
Connectivity	NHS Sites	• HSCN Bandwidth upgraded for 248 sites; scheduling underway for further 99
Nightingale Hospitals	Infrastructure and Assurance	• Connectivity complete for 6/7 Nightingale sites – Exeter on hold due to site relocation • NHS Digital Cyber Design Authority supporting 7/7 Nightingale sites. Support requirements being confirmed (e.g. pen tests, backup reviews, vulnerability scans, secure boundary) • Trust System Support team supporting Harrogate. Awaiting feedback for other sites
Fast and secure Authentication	Smart cards and readers	• Issued a steady supply of ~11k smart cards and ~11k readers since the Access Hub was set up; have not seen high levels of demand; stock maintained to deal with any surge
	Virtual Smartcards	• Virtual Smartcards introduced to reduce contamination risk, simplify processes and support virtual desktops. ~20k of the 30k licenses from the Isosec contract issued, but <2% in use • Pilot is underway for an alternative solution which uses Bluetooth and further prevents contamination risk and reduces single supplier dependency; some technical issues to resolve
Returning Staff	GP Returners	• Supporting South Central Ambulance Services-led programme to onboard returning GPs into the COVID-19 Clinical Assessment Service (CCAS). • 24 NHS Digital volunteers have been redeployed to support GPs through onboarding process, strengthen helpdesk & for website development. Feedback on the role of these volunteers has been extremely positive. NHS Digital also providing guidance on operating model and overall service design given the current low throughput of returners (~50 per day)
Cyber	Support	• Top ~90 most vulnerable Trusts identified and approached, with 30+ support plans agreed • Received 28 requests for services including pen testing, backup technology review, support and guidance from NCSC. All requests are being actioned with 1 backup solution consultancy underway and 1 pen test in progress. Other requests are at scoping stage

Overview of NHS Digital Support for Nightingale Hospitals

Details of support	HSCN connection	NHS Mail	Smartcards, Readers & printers	Cyber support	Trust System support
ExCel Arena	Support delivered	Support delivered	Support not required	Support being delivered	Support offered & awaiting confirmation
Birmingham NEC	Support delivered	Support not required	Support not required	Support being delivered	Support offered & awaiting confirmation
Manchester GMEX	Support delivered	Support not required	Support delivered	Support being delivered	Support offered & awaiting confirmation
Harrogate	Support delivered	Support delivered	Support delivered	Support being delivered	Support being delivered
Bristol	Support delivered	Support not required	Support not required	Support being delivered	Support offered & awaiting confirmation
Sunderland	Support delivered	Support not required	Support not required	Support being delivered	
Exeter	Support being delivered	Support not required	Support not required	Support being delivered	Support offered & awaiting confirmation

Legend:
- ■ Support delivered
- ■ Support being delivered
- ■ Support offered & awaiting confirmation of requirements
- ■ Support not required

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