



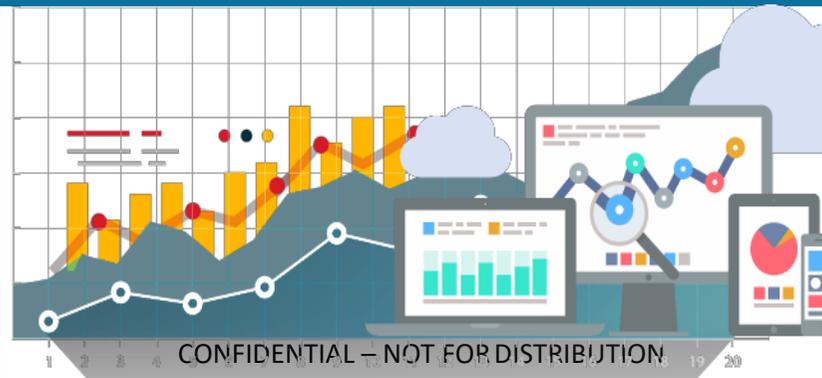
Economic Evaluation of a Digital NHS in London

(All CCGs)

Report is based on HES 2013/14, 2014/15, 2015/16 & 2016/17 data



25 May 2017



Introduction

Healthy London Partnership (HLP) is supporting London's Sustainability and Transformation Partnerships (STPs) to develop their Digital Healthcare plans and, to that end, is recommending specifically the increased use of Digital Healthcare as a scalable approach to the growing population in London. HLP has been working with i5 Health to apply its **Commissioning Opportunity (COP)** module:

1. To identify, using an **Evidence Based Population Health Management** approach and existing secondary care data sets, the numbers of people who may benefit in London from Digital Healthcare initiatives depending on their health profile.
2. To calculate the **Return on Investment** for the NHS in London, the STP areas and the CCGs in implementing Digital Healthcare initiatives in the near term.

This report contains:

- Link to Main Report (Modelling an Alternative Future - Digital NHS): <http://i5health.com/DigitalReports.html>
- Link to Dashboard and Heat Maps for London and the STPs: <http://www.i5health.com/DigitalDashboard.html>
- Explanation of the COP and Population Health Management methodologies used
- Overall Impact in London on Patient Flows
- Digital Healthcare Opportunities and initiatives and specific financial, capacity, workforce and estate results

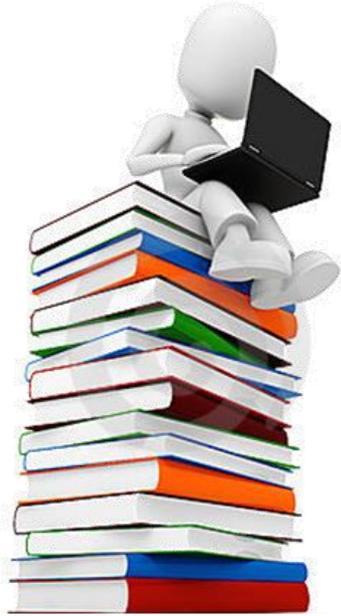
For further information please visit www.i5health.com/hlpDigital.html or email hlp@i5health.com

COP Methodology

COP is a methodology, based on secondary care data that matches successful interventions to patient groups using criteria specific to each intervention. This facilitates identification of care gaps in pathways or development of services and new models of care for the local health economy. The COP methodology supports healthcare organisations with reports that help deliver implementable schemes based on STP strategy and clinical needs of their populations. In particular, COP:

- Enables bottom-up, patient level, processing that matches patients to initiatives
- Calculates how many patients can benefit from an initiative
- Aggregates the current acute cost for treatment of those patients
- Assesses number of patients sufficient for a new initiative within the CCG/STP footprints
- Estimates the return on investment for each initiative
- Provides links to reference material of suggested initiatives
- Facilitates creation of what-if scenarios for modelling purposes
- Informs planning, evaluation and implementation
- Provides strategic reporting and real time monitoring

In the context of an STP, a principal advantage of the COP reports is the overview they give to enable the orchestration of more synchronised and complementary improvement plans that are currently partly a function of funding and other financial incentives tied to KPIs of individual CCGs. The COP reports can help identify the variations, contribute to a constructive dialogue and highlight the possibilities for co-operation within the STP Footprint.



Research into
successful
QIPP/CIP



Identification of
suitable patient
cohorts



Impact modelling
of prioritised
initiatives

Population Health Management Methodology

Digital Healthcare impacts primary, community and acute healthcare by providing patients with technological support and education within their clinical peer-group and similar healthcare demands. A key objective is to “activate” and “educate” the patient for better health outcomes resulting in better self-management and reduced use of healthcare services.

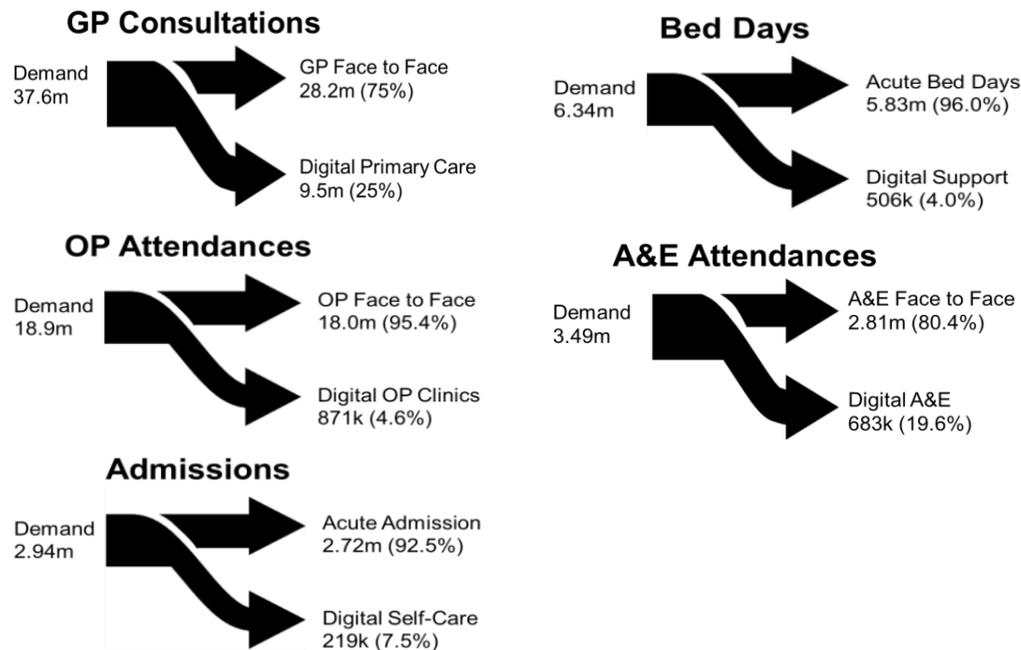
Part of achieving the planned savings in the NHS in the near term is a reduction in acute spend by focusing on patients that receive avoidable care based on acute National Tariffs for which cheaper alternative services utilizing Digital Healthcare could be established. For this purpose, a Population Health Management approach comprising patients’ clinical history, current healthcare needs, acuity score and risk stratification has been used to identify suitable patients for various initiatives.

We have adopted 48 evidence-based initiatives referenced in the “COP Report” section in this report. Those initiatives are based broadly on patients with A&E, outpatient and inpatient activity, between 0 and 2 days length of stay, which are of various complexity and do not require specialist services. Nevertheless, each initiative has specific criteria to identify target populations and the financial opportunity cost relating to the patients’ conditions. Those criteria are based on clinical coding and QoF 15/16 LTC definitions and are applied to acute clinical data (HES) to quantify the patients and their acute spend. A limited number of initiatives have similar criteria hence some patients may be counted more than once.

The patients identified in this report represent potential savings in primary and secondary care and do not include other savings relating to other care settings such as Mental Health and Community – largely down to historical issues associated with block contracts and activity data collection.

Overall Impact in London on Patient Flows

The overall impact on patient flows by implementing Digital Healthcare has been graphically illustrated in the images below. It can be seen that up to 25% of patients can be subject to “Channel Shift” in primary care on aggregate - increasing capacity in the settings below.



Digital Healthcare: List of Initiatives

The table below shows a full list of digital healthcare initiatives that were included in the analysis. The evaluation is based on initiatives where evidence of outcomes is present that facilitates shared learning, replication and scalability. Some reported evidence may not provide optimum scale and would lead to under-reporting compared to interventions that were implemented at optimum scale. Patients may also be counted multiple times where interventions overlap but can be de-duplicated once commissioners have decided which interventions are in scope.

Digital Initiative	Financial Impact (£m)
1) Access to Patient Electronic Records during 111 Calls	£11.30
2) Primary Care Online Triage system (Pre-assessment)	£73.10
3) Image Based Triage for Dermatology	£10.30
4) Self-care and care planning in care homes	£13.00
5) ePrescribing	£29.00
6) Virtual General Practice	£58.00
7) DNA reduction in Primary Care	£15.70
8) Remote communication of test results in Primary Care	£24.00
9) Non-Invasive Heart Failure Monitoring in Primary Care	£1.30
10) Referral Support Service CReSS/psHealth	£7.00
11) GP support from Secondary Care consultants	£5.80
12) Pathology Improvement Programme	£3.20
13) Postage Savings by using e-Referral (CaB)	£5.60
14) Reduction in paper handling time e.g. fax	£1.13
15) Calls due to Patient Enquiries to Trust	£19.20
16) Calls due to Missing Discharge Letters and OP Appointments	£12.10
17) Calls due to Missing or Illegible Test Results	£12.60
18) Avoiding Duplicate Pathology and Radiology Tests	£67.80
19) Remote monitoring of Drug dosage	£15.20
20) Patient Transfers between hospitals initiated by hospitals	£0.44
21) Patient Transfers between hospitals initiated by patient choice	£0.62
22) Avoiding Re-Entry of Care Plans	£3.70
23) Clinical Decision Support System (CDSS) for Case Finding	£12.70
24) A&E Attendance Reduction through AI triage portal	£7.70

Digital Initiative	Financial Impact (£m)
25) Time Savings in A&E due to EPR Access	£1.54
26) Digitally shared Care Plans for patients with LTCs	£16.60
27) Digitally shared Care Plans at Care Homes for EoL Pathway	£10.25
28) Digitally shared Care Plans	£26.30
29) Postage Savings by using e-RS and email	£13.30
30) Non-Invasive Heart Failure Monitoring in Secondary Care	£6.50
31) Asthma Aid Sensor	£6.40
32) Diabetes – Self Management and Self Coaching	£2.60
33) Outpatients Pre-operative screening (e-PAQ)	£2.64
34) Outpatients Post-operative check-up	£2.40
35) Discharge to assess: Length of stay Reduction	£3.27
36) Clinical Decision Support System (CDSS) for Photographic Image Analyses	£14.30
37) Clinical Decision Support System (CDSS) for Cognitive Peer-Review	£31.00
38) Guided Rehabilitation	£15.50
39) Patient Records Retrieval due to Patients' change of Address	£1.44
40) DNA reduction in Secondary Care	£33.80
41) Electronic referral from hospital to community pharmacy	£11.35
42) Digital Task and Handover System – Digital Observation Recording	£41.80
43) Remote Follow-up for OP Appointments (Virtual OP clinic)	£9.20
44) Mobile enabled community nursing	£6.30
45) Mood Monitoring to manage mental health condition	£2.60
46) Arts on Prescription	£1.40
47) Exercise on Prescription	£7.96
48) Expert Patient Programme: Self-Management of Chronic Conditions	£38.40
Total	£717.34

Healthy London Partnership (HLP)

For: London

Evaluation of Digital Healthcare Interventions



Digital Solution	Description	Opportunity	Workforce	Estates
1) Access to Patient Electronic Records during 111 Calls	There is evidence that calls to 111 have increased the number of A&E attendances by being overly risk averse. Through access to Patient electronic records at point of contact and an AI symptom checker, patients can receive decision support about their condition and where to get further support. This will enable 111 to resolve more problems for patients without referring them to A&E or their GP.	In 2015/16, there were 152159 A&E attendances for minor ailments in London, such as Paediatric asthma and Adult ophthalmology. These can be avoided saving £11.3m per year. Financial Impact pa: £11,304,250	Assuming a reduction of 152,159 A&E attendances with an average of 25 min of nursing time, up to 42 nursing FTEs can be avoided that can be used to reduce A&E waiting times.	St George's Hospital sees approximately 160k patients each year in its A&E department. By reducing the demand for A&E by 152,159 patients with minor ailments across London, building 95% of a similarly sized A&E department can be avoided to meet future demand.
2) Primary Care Online Triage system (Pre-assessment)	The system allows patients to access GP advice on a range of minor ailments. Symptom checkers and AI triage can support and inform patients and carers about conditions including dermatology, asthma, cough and colds etc. By capturing information relating to symptoms, images, physiological parameters and side effects GP appointments can be avoided or consultation times can be reduced. Users can book an appointment to see a doctor on screen for consultations with specialists and therapists. GPs can make referrals, send patients for diagnostic testing and email prescriptions to the patient's nearest pharmacy.	By making it easier for patients to access urgent care via online GP consultations and digital symptom checkers in London, up to 26% of GP face to face consultations can be avoided. Assuming that such a digital solution would achieve an uptake of 35% after five years an equivalent of £73.1m can re-invested into primary care capacity. Financial Impact pa: £73,113,793	Assuming £170,000 pa cost for a GP including all practice expenses, the savings achieved are equivalent to 430 GP FTEs.	With an average of 4.7 GPs per practice in England, 430 GP FTEs are equivalent to 91 GP practices that do not need to be opened in London.
3) Image Based Triage for Dermatology	Dermatology – Skin image evaluation; 54% of the population is affected by skin disease; 33% of the population at any time has a skin disease that would benefit from medical care. The cost of a negative melanoma test is between £132 and £264 and can be avoided with an online classification tool for malignant melanoma. By reducing the number of GP consultations, the number of OP attendances where second opinions are provided will also reduce since GPs to refer on 6-8% of the patients with a skin disease for a specialist consultant opinion.	There are 5.6m first GP dermatology consultations costing £152m pa in London. An online image based tool used by 19% of patients with a dermatology condition that classifies 30% for OCT treatment could avoid 322k GP consultations releasing 51 GP FTEs with an equivalent cost of £8.7m per year. The reduction in GP consultations will also avoid 7,719 OP attendances costing £1.6m per year totalling to £10.3m per year. Financial Impact pa: £10,305,262	Assuming £170k for a GP including all practice expenses and a saving of £8.7m in primary care, an equivalent of 51 GP FTEs could be realised. Assuming a reduction of 7,719 OP attendances an equivalent of 4 dermatology consultant FTEs could be released to reduce OP waiting time.	With an average of 4.7 GPs per practice in England, 51 GP FTEs are equivalent to 11 GP practices that do not need to be opened in London. An estimated reduction of 7,719 OP attendances is equivalent to 3.0 OP clinics that have 2,600 attendances on average per year.
4) Self-care and care planning in care homes	Support for self-care management and care planning tool used in care homes in the UK. Patients can remotely log in to Supplier, enter data related to their health goals (which are also available to their GP), send secure messages to their care team and connect with other patients using a social media tool. There are around 65k patients living in	Supplier publications state that clinical practice contacts were reduced by 53% in Outpatients, 73% in A&E attendances and 83% less acute admissions. If half of the claim is achievable, avoiding 26.5% OP FUs could save 32,902k appointments costing £1.8m	Assuming a reduction of 33k OP attendances, 14k A&E attendances and 2,110 admissions, an equivalent of 16.5 OP consultant FTEs, 3.8 A&E	An estimated reduction of 32,902k OP attendances is equivalent to 12.7 OP clinics, 13,550k A&E attendances is equivalent to 13.0% activity of an average A&E department and 2,110 EL admissions is equivalent to 13.9 extra

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Evaluation of Digital Healthcare Interventions



Digital Solution	Description	Opportunity	Workforce	Estates
	care homes in London of which 14k have over 600k OP follow-ups costing £32m pa, 2.6k patients have 18k EL admissions costing over £84m pa and 15k patients visited A&E 180k times costing £28m pa.	pa; 36.5% A&E could save 13,550k attendances costing £2.1m pa; 41.5% EL admissions could save 2,110k admissions costing £9.1m pa. By supporting approx. 32k patients in care homes in London, over 49k face to face appointments could be prevented with an equivalent cost of £13.0m per annum. Financial Impact pa: £12,992,020	nurse FTEs, 3.4 ward nurse FTEs and 2.1 APC consultant FTEs can be made available to reduce elective waiting times.	beds that can be used to reduce elective waiting times.
5) ePrescribing	The EPS enables prescribers - such as GPs and practice nurses - to send prescriptions electronically to a dispenser (such as a pharmacy) of the patient's choice. This makes the prescribing and dispensing process more efficient and convenient for patients and staff. There are wide ranging benefits that address the following issues: •Wastage of drugs •Lack of adherence to formulary •Limited control and accountability in an area of significant expenditure •Less than the best treatment for a patient. •Extended bed stays and higher levels of unnecessary re-admission. •Patient safety incidents through poor legibility of prescriptions •Errors in prescribing and medicines management which could have been avoided with clinical decision support, impacting on patient safety.	The London drugs budget is £2.9bn per year of which £1.1bn is allocated for primary care and £1.8bn for secondary care. The cost impact of EPMA in all secondary care providers in London has been evaluated. The cost impact is for not using paper drug charts (£476k), increased formulary compliance (£18.7m), reduction in technician staff time (£535k), pharmacist staff time (£1.1m), nursing and doctor time (£7.9m) and use of patient's own medicine (£398k). The total savings of an EPMA system across London is £29.0m per year. Financial Impact pa: £29,019,292	Assuming the reduction in technician, pharmacist and nursing and doctor time, an equivalent of 25 technician FTEs, 36 pharmacist FTEs, 109 nursing and 52 doctor FTEs can be achieved to reduce elective waiting time.	An estimated 162 clinical FTEs can support 29,433 admissions per year and with an average of 151 admissions per bed an equivalent capacity of 195 ward beds can be re-used to reduce elective waiting times.
6) Virtual General Practice	A typical scenario utilising a Virtual GP system involves a patient's condition being reviewed through the application of AI algorithms. Users can book an appointment to see a doctor on screen. The service also offers consultations with specialists and therapists; doctors can make referrals, send patients for diagnostic testing and email prescriptions to the patient's nearest pharmacy.	Has the potential to reduce significantly use of GPs in surgeries. Preliminary data shows a triage closure rate of 65% and the ability to reduce cost by 38% for conditions that do not require an examination and are mainly based on symptom description, advice and imagery. There are 9.8m avoidable GP consultations relating to 16 disease groups of which 2.1m can be completed online assuming a 65% closure rate and 34% technology uptake. The equivalent primary care cost of those consultations is £58.0m. Financial Impact pa: £58,014,121	Assuming £170,000 pa cost for a GP including all practice expenses, the savings achieved are equivalent to 342 GP FTEs.	With an average of 4.7 GPs per practice in England, 342 GP FTEs are equivalent to 73 GP practices that do not need to be opened in London to manage the increase in demand.

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Evaluation of Digital Healthcare Interventions



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7) DNA reduction in Primary Care	Improved communication with patients by sending SMS appointment reminders, email, messenger, Facebook, etc. and other notifications that also enable patients to Confirm, Cancel and Reschedule their appointment.	There are over 1,818k missed GP appointments in London. If only 38% of patients consent to reach out to them electronically, 691k DNAs might be avoidable with an equivalent value of £15.8m per year. Financial Impact pa: £15,763,722	Assuming a reduction of 691k primary care DNAs and with an average of 6,827 consultations per GP per year, an equivalent of 101 GP FTEs can be achieved.	With an average of 4.7 GPs per practice in England, 101 GP FTEs are equivalent to 22 GP practices that do not need to be opened in London.
8) Remote communication of test results in Primary Care	There are 85 million test performed in London of which 8% are negative and do not require a GP appointment. By providing an online portal where patients can receive test results and with a take-up rate of 13% in the first year, 890k GP appointments can be avoided that can be made available to more complex patients.	By releasing 890k GP appointments in London through a patient portal where test results are accessible, an equivalent cost of £24.0m can be saved. Financial Impact pa: £24,043,190	Assuming a reduction of 890k primary care consultations and with an average of 6,827 consultations per GP per year, an equivalent of 130 GP FTEs can be achieved.	With an average of 4.7 GPs per practice in England, 130 GP FTEs are equivalent to 28 GP practices that do not need to be opened in London.
9) Non-Invasive Heart Failure Monitoring in Primary Care(See Secondary Care below)	Reduction of GP Consultations for patients with HF through non-invasive heart failure monitoring such as Weight, BP, SPO2, Heart Rate and Respiration Rate releases capacity in primary care. Patients with mild to moderate heart failure, visit their GP 2 or 3 times a year. Using remote monitoring GP consultations for HF patients can be reduced by up to 41%.	For London 48,431 GP consultations for HF patients can be avoided releasing primary care capacity for the value of £1.3m. Financial Impact pa: £1,307,644	Assuming a reduction of 48k primary care consultations and with an average of 6,827 consultations per GP per year, an equivalent of 7.7 GP FTEs can be achieved.	With an average of 4.7 GPs per practice in England, 7.7 GP FTEs are equivalent to 2.0 GP practices that do not need to be opened in London.
10) Referral Support Service CRESS/psHealth	The scope of an electronic referral support system includes: Automatic import and validation of referrals from various sources (NHS e-Referral, email etc.); Automatic referral routing, based on clinical rules, removing most manual processes; Automated patient registration in provider systems; Improved workflow and usability, included integrated reporting; Enabled a 60% reduction in GP assessment and contributed to increased take up of community services.	Approximately 4.8 min for 8.8% of all outpatient first referrals that are over 12 min long can be saved by using an integrated referral system that integrates signposting. For London a total of 251k GP consultations can be avoided with an equivalent cost of £7.0m per year. Financial Impact pa: £7,030,258	Assuming a reduction of 251k primary care consultations and with an average of 6,827 consultations per GP per year, an equivalent capacity of 37 GP FTEs can support complex patients.	With an average of 4.7 GPs per practice in England, 37 GP FTEs are equivalent to 7.8 GP practices that do not need to be opened in London.
11) GP support from Secondary Care consultants	Support GPs in decision-making by providing software to obtain clinical Secondary Care expertise within a 24-hour period would reduce hospital admission. Acute providers or online advice services can run / record educational sessions for GPs online.	Online educational support for GPs can reduce outpatient referrals. Half of all advice requests result in a 'saved referral'. 41k OP appointments can be saved costing £5.9m by providing digital GP support either from hospital consultants or an automated clinical	Assuming 41k OP attendances are avoided, an equivalent of 20 OP consultant FTEs can be released for reducing OP waiting times.	An estimated reduction of 41k OP attendances is equivalent to 16 OP clinics that may not need to be built in London.

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Evaluation of Digital Healthcare Interventions



Digital Solution	Description	Opportunity	Workforce	Estates
		decision support system. Financial Impact pa: £5,860,770		
12) Pathology Improvement Programme	New pathology scheme which has already shown a reduction in rates for most common tests: Vitamin D, Vitamin B12, Ferritin, Folate, Lipids, Thyroid Functions Test, Erythrocyte Sedimentation Rate and Bone Profile.	Up to 460k tests can be avoided each year by avoiding duplication, application of recommended frequency and by sharing test results across the health economy. With the average test costing £7 including staff costs, the savings opportunity is £3.2m for London per year. Financial Impact pa: £3,221,372	Assuming a reduction in 460k tests with each test taking 11 min to perform, 56 GP FTEs can be avoided.	With an average of 4.7 GPs per practice in England, 56 GP FTEs are equivalent to 12.0 GP practices that do not need to be opened in London to manage the increase in demand.
13) Postage Savings by using e-Referral (CaB)(See Secondary Care below)	Using e-RS can simplify the online appointment booking process for hospitals. Current use of e-RS for London stands at 39% (52% in England) and 10.8m letters are sent by GPs to Hospital trusts to manage referrals. Higher utilisation of e-RS as a digital solution could increase 4% pa and reach national average 52% in Y3 and move up to 60% in 5 years.	By moving GP practice communication with hospitals to e-RS use of paper and the associated costs of printing, handling and posting can be avoided. If e-RS uptake can be increased to 60% and 34% of patients also receive electronic letters, handling over 3.7m letters in primary care could save £5.6m. Financial Impact pa: £5,566,124	Assuming higher utilisation of eRS as a digital solution could avoid 3.7m letters being sent by primary care and an average of 3.5 minutes to print and post the letter, 144 admin FTEs can be saved with a digital solution.	With 36 hospitals in London and a reduction of 144 admin FTEs, an expansion of 4 desks per hospital could be avoided due to future increase in demand.
14) Reduction in paper handling time e.g. fax	GP practice administrators send approximately 20 faxes per month that take 15 min to prepare and send. Such paper based communication can be placed on a digital health information platform reducing administrative burden.	Avoiding 328,560 faxes send by practice administrators per year and instead using a communication system integrated within a Health Information Exchange a saving of £1.1m per year can be achieved for London. Financial Impact pa: £1,129,425	By reducing time required for paper handling by 15 min to prepare and fax information, 51.3 GP Practice Administrator FTEs can be freed for direct patient contact.	By improving workflow and efficiency of the existing workforce, building desk space for up to 51 desks can be avoided due to future increase in demand.
15) Calls due to Patient Enquiries to Trust	Many calls are performed by GP practices to enquire patient information from trusts. GP practices estimate 5 calls per day taking 20 min each with two staff on either side on the telephone that can be avoided by effectively sharing patient records.	With 1,369 GP practices in London with 5 calls per day lasting 20 min, a total of 408 FTEs on phone calls can be avoided at the GP practice and provider with an equivalent cost of £19.2m per year. Financial Impact pa: £19,188,021	Assuming a reduction in avoidable calls between GPs and providers, 408 FTEs of a GP practice administrator and 408 FTEs of a band 5 nurse at the provider can be avoided.	By improving workflow and efficiency of the existing workforce, building desk space for up to 816 desks can be avoided due to future increase in demand.

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Evaluation of Digital Healthcare Interventions



Digital Solution	Description	Opportunity	Workforce	Estates
16) Calls to seek Missing Discharge Letters and to confirm OP Appointments	Many calls are performed by GP practices to enquire patient discharge letters and OP appointment dates. GP practices estimate 80 calls month day taking 20 min each with two staff on either side on the telephone that can be avoided by effectively sharing patient records.	With 1,369 GP practices in London with 80 calls per month lasting 20 min, a total of 274 FTEs on phone calls can be avoided at the GP practice and provider with an equivalent cost of £12.1m per year. Financial Impact pa: £12,111,817	Assuming a reduction in avoidable calls between GPs and providers, 274 FTEs of a GP practice administrator and 274 FTEs of a band 5 nurse at the provider can be avoided.	By improving workflow and efficiency of the existing workforce, building desk space for up to 548 desks can be avoided due to future increase in demand.
17) Calls due to Missing or Illegible Test Results	GP practices contact hospital providers via various means to retrieve missing or illegible pathology and radiology results from hospital providers which take approximately 15 min each.	There are 7.06m diagnostic tests and 78.57m pathology tests performed in London pa of which 32% require an enquiry causing 285 FTEs for the GP and the provider. At the cost of an average GP administrator and a band 5 nurse at the provider an equivalent cost of £12.6m is accrued per year. Financial Impact pa: £12,625,529	Assuming a reduction in avoidable calls between GPs and providers, 285 FTEs of a GP practice administrator and 285 FTEs of a band 4 administrator at the provider can be avoided.	By improving workflow and efficiency of the existing workforce, building desk space for up to 571 desks can be avoided due to future increase in demand.
18) Avoiding Duplicate Pathology and Radiology Tests	Over 7m diagnostic tests and 78.5m pathology requests are made in London each year. Many scientific studies have researched the presence of either duplicate test or avoidable tests for radiology and pathology.	If duplicate testing due to lack of data sharing and for following protocol can be avoided, a total of £32.1m in radiology and £35.8m for pathology can be saved in London totalling to £67.9m. Financial Impact pa: £67,911,732	Assuming a reduction in over 5.2m tests for London with each test taking 7.1min to perform, 415 Phlebotomist Nurse FTEs can be re-assigned for direct patient care to see 830,653 patients in primary care.	By improving workflow and efficiency of the existing workforce, building desk space for up to 415 desks can be avoided due to future increase in demand.
19) Remote monitoring of Drug dosage	Remote monitoring in Primary Care of Drug dosage of Anticoagulants and Lithium management	Through remote monitoring of drug dosage and reduction of hospital attendances and admissions £15.2m savings in respect of anti-coagulation alone can be achieved. Financial Impact pa: £15,227,937	Assuming a reduction in 212k GP consultations and 2,419 acute admissions, an equivalent of 31 GP FTEs and 75 hospital consultant FTEs can be re-used for direct patient care.	With an average of 4.7 GPs per practice in England, 31 GP FTEs are equivalent to 6.6 GP practices that do not need to be opened in London and with 2,419 admissions avoided an additional 16.0 beds can be freed.
20) Patient Transfers between hospitals	There are many transfers between hospital providers where patient records require to be retrieved, copied, rekeyed or are not present. This can be improved by sharing patient records, care plans etc. There are over 113k admissions	If 20 min can be saved by not searching for paper records between each transfer by having access to a shared EPR, 8.8 admin FTEs can be freed up with an equivalent cost	Assuming efficient patient record sharing during hospital transfers approximately 8.8 admin	By improving workflow and efficiency of the existing workforce, building desk space for up to 18 desks can be avoided due to future increase in demand.

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Evaluation of Digital Healthcare Interventions



Digital Solution	Description	Opportunity	Workforce	Estates
initiated by hospitals	between hospitals in London of which 50,576 relate to transfers initiated by providers.	of over £440k based on a band 5 hospital nurse and a GP administrator's annual income per year. Financial Impact pa: £439,853	FTEs in primary and secondary care can be used for direct patient care of 17,561 patients.	
21) Patient Transfers between hospitals initiated by patient choice	There are 113k admissions between hospitals in London of which over 50,576 relate to transfers initiated by providers and 63,137 to patient choice.	If 20 min can be saved by not searching for paper records between each transfer by having access to a shared EPR, 13.2 admin FTEs can be freed up with an equivalent cost of over £619k based on a band 5 hospital nurse and a GP administrator's annual income per year. Financial Impact pa: £618,835	Assuming efficient patient record sharing during hospital transfers approximately 13.2 admin FTEs in primary and secondary care can be used for direct patient care of 26,307 patients.	By improving workflow and efficiency of the existing workforce, building desk space for up to 26 desks can be avoided due to future increase in demand.
22) Avoiding Re-Entry of Care Plans	With the introduction of a linked up IT system where care plans are being shared and data will only need to be entered once administrative burden and cost can be reduced.	A newly created care plan costs £143.50 based on DES payment and a re-entered care plan (10 min) would cost £28. By avoiding re-entry of 70% of the 188,219 care plans in London due to sharing, an equivalent cost of £3.7m can be avoided each year. Financial Impact pa: £3,702,272	Assuming avoiding re-entry of 131,753 care plans at 10 min each, an equivalent of 15 GP FTEs can be re-used for direct patient care.	With an average of 4.7 GPs per practice in England, 14.6 GP FTEs are equivalent to 3.1 GP practices that do not need to be opened in London to meet rising demand.
23) Clinical Decision Support System (CDSS) for Case Finding	Decision support is a complementary service to existing diagnosis methods for chronic-disease diagnosis and management. CDSS systems can analyse patient clinical records and make recommendations with a high degree of accuracy to support LTC case-finding. Such a system is disease specific and accurate than risk stratification.	PHM evidence passed diagnostic tools can help identifying un / mis-diagnosed patients with LTCs in London. By diagnosing 106k patients with undiagnosed conditions in primary care, 106k A&E attendances can be prevented with an equivalent cost of £12.7m per year. Financial Impact pa: £12,663,600	Assuming a reduction of 106k A&E attendances with an average of 25 min of nursing time, up to 30.1 nursing FTEs can be avoided that can be used to reduce A&E waiting times.	The Royal Free London NHS FT sees approximately 105k patients each year in its A&E department. By reducing demand for A&E by diagnosing patients early in primary care, building a similarly sized A&E department in London to meet future demand can be avoided
24) A&E Attendance Reduction through AI triage portal	Patients with minor Ailments that can be self-managed or seen in Primary Care instead of A&E. In London there were 3.6m A&E attendances of which 242k patients were under 65 years without complications that were not admitted (6.8%).	If 19% of 242k attendances are patients that adopt the AI triage system technology early, 46k attendances can be shifted to a digital channel at an equivalent acute saving of £3.7m in the first year. If after 5 years 39% of patients use the online service, an equivalent saving of £7.7m can be achieved. Financial Impact pa: £7,655,462	Assuming a reduction of 95k A&E attendances with an average of 10 min of nursing time, up to 10.5 nursing FTEs can be avoided that can be used to reduce A&E waiting times.	The Whittington Hospital NHS Trust sees approximately 97k patients each year in its A&E department. By reducing demand for A&E by providing self-care information, building a similarly sized A&E department in London can be avoided to meet future demand.

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Evaluation of Digital Healthcare Interventions



Digital Solution	Description	Opportunity	Workforce	Estates
25) Time Savings in A&E due to EPR Access	There are 3.5m A&E attendances annually in London costing over £381m covering all A&E types and age bands. If we assume that a band 7 nurse on saves 3 minutes of time with access to the electronically shared patient records freed time can be used for clinical care instead.	If a band 7 nurse saves 3 minutes of time for 10% of all 1.9m A&E attendances in London, an equivalent cost of £1.5m can be saved each year. Financial Impact pa: £1,540,262	Assuming avoiding 3 min for searching patient records for 1.9m A&E attendances in London, up to 43 nursing FTEs can be avoided that can be used to reduce A&E waiting times by increasing capacity to see an additional 232,359 patients.	The Barking, Havering and Redbridge NHS Trust sees approximately 238k patients each year in its A&E department. By being able to see an additional 232k patients, building a similarly sized A&E department in London can be avoided to meet future demand.
26) Digitally shared Care Plans for patients with LTCs	Intelligently targeted and shared quality Anticipatory Care Planning (ACP) enhances outcomes for patients and reduces resource use. NHS Lothian has, for the past 2 years, been piloting this approach targeting 1) Younger people who attended A&E frequently (16y-55y); 2) People with >1 LTC age <75y; 3) Frail Elderly >75y.	By managing 23,527 patients (0.25%) in the three groups identified, 27K A&E attendances and 44k bed days costing £21.1m pa can be saved at a cost for the service at £4.5m. This reduction in activity has a net equivalent cost of £16.6m per year. Financial Impact pa: £16,563,624	Assuming efficient sharing of care plans with patients that have LTCs can avoid 27k A&E attendances per year which is equivalent to 13.3 A&E nursing FTEs that can be used to reduce A&E waiting times.	Reducing the length of stay by 44k days equals 121 extra beds per year that can be used to reduce waiting times for elective admissions.
27) Digitally shared Care Plans at Care Homes for EoL Pathway	Increasing the number and sharing of Advance Care Plans (EoL) can reduce A&E attendances and readmissions for patients that experience crisis. In London, 53% of patients die in hospital (Eng Avg 43%) and only 14% in care homes (Eng Avg 23%). By moving London to national average of care home deaths, 4,145 patients less would die in hospital at a cost of £2,473 per patient. NWL has over 34,000 care plans (1.6% of patients) which is short of the 2% target. The elderly population 80+ in London is 3% of the total population in London.	Enabling patients that reside in care homes to share their care plan and die at their designated place of death would allow 4,145 patients to die in care homes instead of being conveyed to A&E and admitted- with an equivalent saving of £10.3m per year. Financial Impact pa: £10,251,368	Assuming efficient sharing of care plans with patients that are in their last year of life, 12,435 A&E attendances may be avoidable which is equivalent to 7.6 A&E nursing FTEs that can be used to reduce A&E waiting times.	Reducing the length of stay by 54,233 days equals 149 extra beds per year that can be used to reduce waiting times for elective admissions.
28) Digitally shared Care Plans	An efficient Care Plan sharing services system can reduce hospital death rates by 26% for patients that are within the scheme.	Implementing efficient Care Plan sharing services across the London healthcare setting can reduce hospital deaths from 26,466 to 15,829 (from 53.6%to 32.1%) at a cost of £2,102 per admission saving £26.3m per year.	Assuming efficient sharing of care plans with patients that are in their last year of life, 21,274 A&E attendances may be avoidable which is	Reducing the length of stay by 139,172 days equals 381 extra beds per year that can be used to reduce waiting times for elective admissions.

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Evaluation of Digital Healthcare Interventions



Digital Solution	Description	Opportunity	Workforce	Estates
		Financial Impact pa: £26,322,572	equivalent to 8.9 A&E nursing FTEs that can be used to reduce A&E waiting times.	
29) Postage Savings by using e-RS and email (See Primary Care above)	Providers are using e-RS when the referral was made electronically or use post. 82% of practices use e-RS with an utilisation rate at 39% for referrals in London. Higher utilisation of e-RS at GP practices as a digital solution could increase 4% pa and reach national average 52% in Y3 and move up to 60% in 5 years. Patients may also receive letters electronically. Up to 34% of patients may receive electronic letters after 5 years.	By moving hospital communication with hospitals to e-RS use of paper and the associated costs of printing, handling and posting can be avoided. If e-RS uptake can be increased to 60% and 34% of patients also receive electronic letters, handling over 8.9m letters in secondary care could save £13.3m. Financial Impact pa: £13,309,299	Assuming higher utilisation of eRS as a digital solution could avoid 8.9m letters being sent by secondary care and an average of 3.5 minutes to print and post the letter, 345 admin FTEs can be saved with a digital solution.	With 36 hospitals in London and a reduction of 345 admin FTEs, an expansion of 10 desks per hospital could be avoided due to future increase in demand.
30) Non-Invasive Heart Failure Monitoring in Secondary Care(See Primary Care above)	Reduction of Secondary Care admissions and OP appointments for patients with HF through non-invasive heart failure monitoring such as Weight, BP,SPO2, Heart Rate and Respiration Rate releases capacity in primary care. In London there are 47,250 patients with HF that have 5,023 HF management related A&E attendances (£850k) and 27,149 admissions (£84m) each year.	Remote monitoring of HF patients can reduce A&E attendances and admissions. Approximately 54% of HF registered patients (25,742) have one or more admissions accounting for 2,111 admissions for HF related complications that can be avoided with an equivalent cost of £6.5m per year. Financial Impact pa: £6,532,499	Assuming the prevention of 2,111 admissions with 20,308 bed days, an equivalent of 13.5 staff nurse FTEs and 6.8 consultant FTEs can be used to reduce elective waiting times.	Reducing the length of stay by 20,308 days equals 55.6 extra beds per year that can be used to reduce waiting times for elective admissions.
31) Asthma Aid Sensor	Asthma Aid Sensor that attaches to an inhaler and tracks daily medication intake for patients with Asthma and Chronic Obstructive Pulmonary Disease (COPD); it seeks to control symptoms in patients who experience frequent acute episodes that would normally drive the patient to the hospital. Each dose records the location, time and date to spot asthma triggers and how using daily medications can prevent attacks. Findings show that adults with initially uncontrolled asthma showed a significantly larger improvement than the control group with an impact on A&E and non-elective admissions through digitally supporting self-management.	In 2015/16 there were 14,875 avoidable asthma related A&E attendances by 6,480 patients costing over £2.8m and 4,459 avoidable emergency admissions by 3,975 patients costing over £3.6m in London. Those patients have inadequate control of their illness and would benefit from a digital solution to improve self-management to save a total of £6.4m in avoidable hospital cost per year. Financial Impact pa: £6,416,738	Assuming the prevention of 14,875 A&E attendances and 4,459 admissions with 10,725 bed days, an equivalent of 6.6 A&E nurse FTEs, 11.4 ward nurse FTEs and 5.7 consultant FTEs can be used to reduce elective waiting times.	Reducing the length of stay by 10,725 days equals 29.4 extra beds per year that can be used to reduce waiting times for elective admissions.

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Evaluation of Digital Healthcare Interventions



Digital Solution	Description	Opportunity	Workforce	Estates
32) Diabetes – Self Management and Self Coaching	A peer-to-peer digital support network enabling patients, caregivers and health advocates to connect safely online with guidance from credible experts. Access to the patient EHR and using AI technology relevant content can be based on the patient’s profile. Apps include booking coaching sessions, weight and activity tracking, food diary and goal setting to activate patients which can lead to 8-21% lower health care costs.	In 2015/16 there were 7,134 avoidable diabetes related A&E attendances by 2,320 patients costing over £1.0m and 1,779 avoidable emergency admissions by 1,655 patients costing over £1.5m in London. Those patients have inadequate control of their illness and would benefit from a digital solution to improve self-management to save a total of £2.6m in avoidable hospital cost per year. Financial Impact pa: £2,581,644	Assuming the prevention of 7,134 A&E attendances and 1,779 admissions with 4,279 bed days, an equivalent of 5.0 A&E nurse FTEs, 7.0 ward nurse FTEs and 1.9 consultant FTEs can be used to reduce elective waiting times.	Reducing the length of stay by 4,279 days equals 11.7 extra beds per year that can be used to reduce waiting times for elective admissions.
33) Outpatients Pre-operative screening (e-PAQ)	Part of Pre-operative assessment clinics for anaesthesia. A screening questionnaire can be completed at a surgical clinic or online from home, using a computer, following listing for surgery. Offering a potential to streamline services through a high quality assessment process. System can incorporate decision making software that facilitates the ordering of investigations.	Over 39K patients would benefit from ePAQ in London and with an assumed take up rate of 87% after five years, 34k patients would enter information into ePAQ relating to their 44k admissions. Considering the reported efficacy of ePAQ at 93%, 32k follow-up OP appointments can be avoided at an equivalent cost of £2.6m per year. Financial Impact pa: £2,645,665	Assuming the prevention of 31,906 OP attendances, an equivalent of 25.5 OP consultants can be used to reduce OP waiting times.	Assuming the prevention of 31,906 OP attendances, 19.6 OP clinics can be used to reduce OP waiting times.
34) Outpatients Post-operative check-up	Sheffield Teaching Hospitals NHS Foundation Trust using secure, online questionnaire that allows patients to carry out their initial post-operative assessment online. This reduces the need for post-surgical follow up appointments where the recovery progress follows what’s expected.	If 75% of patients receiving surgery would agree to use the system as a means of assessing their recovery progress, one follow-up OP appointment for each patient can be saved resulting in 22,696 saved OPFU attendances with an equivalent cost of £2.4m per year. Financial Impact pa: £2,400,135	Assuming the prevention of 22,696 OP attendances, an equivalent of 18.2 OP consultants can be used to reduce OP waiting times.	Assuming the prevention of 22,696 OP attendances, 14.0 OP clinics can be used to reduce OP waiting times.
35) Discharge to assess: Length of stay Reduction	Support Early Discharge through remote monitoring from Secondary Care. There are 21,480 frail elderly patients arriving after 6pm in A&E that are admitted 58,200 times with a LOS of 0 or 1 day totalling 17,209 day costing £31.5m. 37% of those patients are suitable for discharge to assess and may have been admitted since no senior geriatrician was available for advice. Shared EPR with care plans can be used remotely by specialists to support junior doctors or to facilitate direct referral to reablement along the discharge to assess pathway.	With a digitally supported D2A process 14,550 bed days can be avoided in London by discharging patients on the day of admission reducing their hospital cost by £3.3m. Financial Impact pa: £3,273,750	Assuming the prevention of 14,550 bed days, an equivalent of 24.3 ward nurse FTEs and 8.1 consultant FTEs can be used to reduce elective waiting times.	Assuming the prevention of 14,550 bed days, 39.9 extra beds can be used to reduce elective waiting times.

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Evaluation of Digital Healthcare Interventions



Digital Solution	Description	Opportunity	Workforce	Estates
36) Clinical Decision Support System (CDSS) for Photographic Image Analyses	A clinician facing tool that supports diagnosis based on Photographic Image Analyses to change the way physicians read imaging exams in terms of increased accuracy and throughput. Image analysis is currently focusing on dermatological conditions such as melanoma diagnosis in hospital. There are only 906 FTE dermatology consultants in England in 2015/16 for 4.6m OP attendances and 152k admissions causing longer waiting times.	In London 306k patients have 716k OP attendances costing over £46.2m per year. A CDSS can reduce consultation times by up to 9 min per OP attendance and reduce LOS for admitted patients. Indicate a potential saving through reduced OP consultation times of £14.3m per year. Financial Impact pa: £14,343,385	Assuming the prevention of 138k dermatology OP appointments in London, an equivalent of 69.0 OP consultant FTEs can be used to reduce OP waiting times.	Assuming the prevention of 138k dermatology OP appointments in London, 53.0 extra OP clinics can be used to reduce OP waiting times.
37) Clinical Decision Support System (CDSS) for Cognitive Peer-Review	Cognitive Peer-Review designed to enable reconciliation of discrepancies between patient's clinical diagnosis and treatment to reduce adverse events. 10.8% of admitted patients have adverse events in hospital, 48% of adverse events are preventable. In 68% a CDSS system can be used and in 70% CDSS increases the quality of care.	Four of the most common specialties account for 36,876 adverse events costing the NHS over £136.0m in extra bed days. If a CDSS system is used, 8,425 adverse events with 171k bed days could be avoided saving £31.1m in London each year. Financial Impact pa: £31,081,754	Assuming the prevention of 171k bed days due to adverse events, an equivalent of 114 ward nurse FTEs and 38 consultant FTEs can be used to reduce elective waiting times.	Assuming the prevention of 171k bed days due to adverse events, 468.5 extra beds can be used to reduce elective waiting times.
38) Guided Rehabilitation	The length of time patients stay varies according to their individual goals, and a typical stay could be anything between one to six weeks. Improve recovery by monitoring muscle activity and movement e.g. knee, hand or arm monitoring. Facilitate mobility and domestic activities for the elderly and preventing hospital admission and continuing with rehabilitation programmes. Includes rehabilitation and discharge support for frail patients. Remotely monitored rehabilitation devices that provide motivational real-time feedback and group exercises and wearable technology to support the rehabilitation pathway. Benefits include observing recovery progress, incentives to adhere to exercise, and data for more informed interaction with clinicians.	Approximately 1,200 conditions result in limited or reduced mobility where adherence and improvement observation would be beneficial. There were 32,218 patients in London that spent over 222k days in hospital of which 18,924 (8.5%) could be avoided through remote exercise and progress observation with a value of £15.5m per year. Financial Impact pa: £15,457,202	Assuming the prevention of 18,924 bed days due to adverse events, an equivalent of 20.2 ward nurse FTEs and 6.7 consultant FTEs can be used to reduce elective waiting times.	Assuming the prevention of 18,924 bed days due to adverse events, 51.8 extra beds can be used to reduce elective waiting times.
39) Patient Records Retrieval due to Patients' change of Address	The highest risk of data fragmentation occurs when patients move to a location which is connected to a different hub and visit a different provider for a different type of care. As a consequence, incomplete/missing/lost patient records may lead to incomplete medical history interrupting continuity of care and could cause repetition of diagnosis, tests, prescriptions or lead to drugs	A total of £1.4m per year is spent in London each year on retrieving records for patients that moved in and around London due to fragmentation of medical records. Those costs can be avoided by utilising a central Health Information Exchange that facilitates effective data sharing.	Assuming the prevention of retrieving/printing medical records for 525k attendances taking 15 min each, an equivalent of 43.8 band 5 hospital administrator FTEs can be	By improving workflow and efficiency of the existing workforce, building desk space for up to 44 desks can be avoided due to future increase in demand.

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Evaluation of Digital Healthcare Interventions



Digital Solution	Description	Opportunity	Workforce	Estates
	complications and poor outcomes.	Financial Impact pa: £1,438,593	re-used to for other tasks.	
40) DNA reduction in Secondary Care	Improved communication with patients by sending SMS appointment reminders, email, messenger, Facebook, etc. and other notifications that also enable patients to Confirm, Cancel and Reschedule their appointment.	There are over 834k missed OP attendances in London. If only 38% of patients consent to reach out to them electronically, 317k OP DNAs might be avoidable with an equivalent value of £33.9m per year. Financial Impact pa: £33,865,343	Assuming the prevention of missed 316,818 OP appointments, an equivalent of 158 OP consultants can be used to reduce waiting times.	Assuming the prevention of missed 316,818 OP attendances is equivalent to 122 OP clinics that may not need to be built in London.
41) Electronic referral from hospital to community pharmacy	By implementing an electronic referral system between hospital and community pharmacies inpatients can be effectively referred to their nominated community pharmacist and receive a follow-up consultations after discharge. IT requirements include electronic transmission of patient's medicines and reliable way of contacting patients to arrange consultation. Most referred patients were over 60 years of age and referred for a Medicines Use Review (MUR) or New Medicines Service (NMS). Patients showed significant lower rates of readmissions and shorter hospital stays.	A digital platform can facilitate eReferrals to community pharmacists with access to the EPR including past prescriptions to improve the coordination of care. This can reduce re-admissions and length of stay (LOS). In London there are 2,769 avoidable re-admissions costing £4.1m and 28,854 avoidable bed days costing £7.2m, totalling to £11.3m each year. Financial Impact pa: £11,347,809	Assuming the prevention of 2,769 admissions and 28,854 bed days, an equivalent of 30.8 ward nurses and 10.3 hospital consultants used to reduce elective waiting times.	Assuming the prevention of 2,769 admissions and 28,854 bed days, 79.1 extra beds can be made available which do not need to be built to address future demand.
42) Digital Task and Handover System – Digital Observation Recording	Make patients' medical information available to the right clinicians in the hospital. An integrated mobile system for recording Observations, Handover and Task Management through recording vital patient observations as well as sharing key clinical details used for handover. System includes automated escalations to ensure that deteriorating patients receive rapid clinical interventions. Supports the national 'Safer Wards, Safer Hospitals' programme. Mobile task management, Electronic Observations (eObs) and Handheld Technologies in the Ward.	Benefits from digitising the recording of observations to remove the risk and inefficiency of paper based handover and automated escalation for deteriorating patients. Nurses can see a workload reduction of up to 14% and doctors up to 8%. The equivalent workforce cost for a band 4 nurse is £25.6m and a registrar £16.3m if a 30% take up rate can be achieved, totalling to £41.8m per year. Financial Impact pa: £41,809,491	Assuming a workload reduction of 14% for nurses and 8% for doctors and a take up rate of 30%, this could pay for an additional 614 ward nurses and 157 hospital consultants can be used to reduce elective waiting times.	Assuming a workload reduction of 14% for nurses and 8% for doctors and a take up rate of 30%, 628 extra beds can be made available for 92,982 patients for which no wards need to be built to address future demand.
43) Remote Follow-up for OP Appointments (Virtual OP clinic)	Patients often have OP follow-up appointments to verify that their condition has improved and treatment can be stopped. Such OP appointments could be performed online by using virtual appointments. There were 280,053 OP follow up appointments in London by patients without long term conditions that did not receive any other treatment after the OP appointment. Those appointments could have	Benefits include avoidance for travelling, reduced need for estates and ability to utilise a flexible clinical workforce from any location that is qualified to practice. Virtual OP follow up appointments that do not require physical examinations reduce the need for physical estates by 67.3 clinics and can save £9.2m by	Assuming a cost reduction from £110 for a face to face appointment to £77 for a virtual appointment, the savings of £9.2m could pay for 87.5 hospital consultants	Assuming a cost reduction from £110 for a face to face appointment to £77 for a virtual appointment, the additional 87.5 hospital consultants could run an additional 67.3 virtual OP clinics to address future demand.

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Digital Solution	Description	Opportunity	Workforce	Estates
	been provided digitally via an online tool or remote video at a slightly lower cost whilst reducing the need for travel and physical estates.	commissioning a virtual service at 70% of the usual OP follow-up tariff. Financial Impact pa: £9,241,749	that can be used to reduce elective waiting times.	
44) Mobile enabled community nursing	Make patients' medical information available to the right clinicians in the community. By using remote mobile working practices that improve community activity and reduce onward referrals and unplanned elective care it is possible to release cost efficiencies.	Saving of £3,000 per Health visitor and District nurse with approximately 2,980 in London the total savings from this programme can reach £6.3m per year. Financial Impact pa: £6,256,992	Assuming a cost reduction of £6.3m in London by accessing full EPR via mobile devices, the savings could pay for an additional 246 community nurses to support 2,583 patients at home or in an intermediate care setting.	There is no estate impact.
45) Mood Monitoring to manage mental health condition	Barnet, Enfield and Haringey Mental Health NHS Trust are considering the business for Mood Monitoring tool to track mental health patient's health status to avoid crisis and improved outcomes. Outcome monitoring through entering data (mood, activity, drugs, etc.), engaging in activities (social prescribing, expert patient programmes, art classes, singing, breathing, etc.), wearable technology (Electro Dermal Activity (EDA), physiological data, biosensors, etc.) or mood detection algorithms (video, motion, sound) can reduce A&E and non-elective admissions.	There are approximately 18,925 patients in London relating with mood affecting disorders. Those patients had 5,155 mood related A&E attendances and 32,689 mood related admissions. By detecting the early onset of an acute episode of mood affecting disorders 2,938 A&E attendances and 3,797 zero LOS admissions that relate to a mood affecting disorder could be avoided with an acute cost of £2.6m in London per year. Financial Impact pa: £2,643,621	Assuming a reduction of 2,938 A&E attendances and 3,797 admissions in London, the savings of £2.3m could pay for 8.4 nurses and 4.0 hospital consultants to reduce elective waiting times.	Assuming a reduction of 3,797 admissions with zero LOS could release 10.4 beds in London that can be used to reduce elective waiting times.
46) Arts on Prescription	Creative Alternatives is an innovative 'arts on prescription' programme that offers a range of stimulating and challenging creative activities to those experiencing mild to moderate depression, stress or anxiety. Reduce reliance on antidepressant or tranquiliser medication. Reduce the amount of GP contact time devoted to those with depression and/or anxiety. Decrease the symptoms of depression and/or anxiety. Improve quality of life and increase self-esteem and confidence. Improve a number of key and transferable skills (social, literacy, planning, etc.) with the aim of increasing employment prospects.	There are 1,892 patients with depression, stress and anxiety disorders in London that had 1,988 non-elective emergency admissions. Those zero length of stay emergency admissions were costing over £1.4m per year and could have been prevented by providing arts therapy. Financial Impact pa: £1,416,606	Assuming a reduction of 1,988 emergency admissions with zero length of stay and savings of £1.4m, this could pay for an additional 8.3 GP FTEs to support those patients in primary care.	Assuming a reduction of 1,988 emergency admissions with zero length of stay and savings of £1.4m, this could pay for 2.8 GP surgeries to cover increased demand in primary care.

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Digital Solution	Description	Opportunity	Workforce	Estates
47) Exercise on Prescription	Exercise on Prescription or Exercise Referral involves referring patients to supported exercise programmes (e.g. cycling, guided healthy walks, gym or leisure centre activity, keep fit and dance classes, swimming, aqua therapy, team sports, Singing Classes and Tia Chi/ Yoga. A 12 week plan of physical activity that is appropriate to their ability is provided that is supervised and supported.	There are 6,771 patients with type 2 diabetes, joint problems, mild respiratory problems, falls and other movement restricting conditions that had 7,001 non-elective emergency admissions. Also, 3,129 patients had 3,237 elective admissions for treating movement restricting symptoms. Those zero length of stay emergency admission were costing over £5.1m per year and the elective admissions cost over £2.9m totalling £8.0m that could have been prevented by providing exercise therapy. Financial Impact pa: £7,964,975	By supporting 9,900 patients with a targeted exercise programme a total of 10,238 admissions can be avoided saving £8.0m which could release 16.4 ward nurse FTEs and 10.3 hospital consultant FTEs to reduce waiting times for elective admissions.	Assuming a reduction of 10,238 admissions by 9,900 patients, a total of 67.5 beds could be made available for reducing the waiting time for elective admissions.
48) Expert Patient Programme: Self-Management of Chronic Conditions	Online triage system which will allow patients to choose and book expert patients programmes from recommendation programme list based on patient history. Kingston CCG Results: 20% Reduction in the number of GP practice appointments; Reduction in the number of A&E and Outpatient attendances. Hospital attendance: 180 visits for the 12 months prior to attending a course to 70 for the 12 months post attending a course = 62% reduction; Improved self-efficacy and self-confidence: A brief screening tool, the Stanford 6-item Self-Efficacy for managing chronic disease instrument showed a 34% improvement in scores after attending a course; from an average score prior to the course of 5.39 to 7.24 subsequent to attending the course; London Health and Care Information Exchange (LHCIE). Digital London cannot proceed properly without a firm plan common and committed to all STPs Trusts and CCGs. Without it, there will be little advance towards EHR, interoperability and a proper return on investment for all digital projects.	There are 47,281 patients with hypertension, type 2 diabetes, asthma, AF, COPD and other LTCs which had 49,863 minor non-elective emergency admissions with zero length of stay. Those emergency admissions were costing £38.4m per year and could have been prevented by providing expert patient programmes to enable patients to self-manage their conditions better. Financial Impact pa: £38,396,781	By supporting 47,281 patients with a targeted expert patient programme a total of 49,863 admissions can be avoided saving around £38.4m which could release 33.2 ward nurse FTEs and 20.8 hospital consultant FTEs to reduce waiting times for elective admissions.	Assuming a reduction of 49,863 admissions by 47,281 patients, a total of 136.6 beds could be made available for reducing the waiting time for elective admissions.