South East London Integrated Care System

NHS

South East London
Green Plan 2022-2025

Our plan for sustainable primary care

South East London ICS

Table of Contents

Foreword

Making sustainable change is challenging. Even more so across primary care organisations that are smaller, have less 'built for purpose estate', have fewer staff and less time than large hospitals. Without the early engagement and support of primary care, however, we will not be able to make sufficient progress on the NHS' ambition to eradicate its carbon footprint by 2045.

The last two years through the COVID-19 pandemic have been a fantastic illustration of the commitment and innovation of our more than 200 general practices, local pharmacies, and other primary care organisations, doing things and working in ways we didn't think was possible even a few months before. That should give us hope that significant change, even in the light of increasing pressure, is possible. We need ambition, commitment, and hope to make a difference to sustainability.

We know that being asked to shoulder such a huge issue might feel like one thing too many, but please know that:

- even small changes can make a difference – you don't have to do everything we suggest here nor what is in the *Decarbonisation guide for general practice*, but please talk to others and think about what you can do
- what is better for the planet is better for patients and our local communities – the connection between health and the environment is clear
- you are not alone – South East London (SEL) integrated care system (ICS) is committed to making a difference and will be supporting primary care in these actions (see 'Who is this plan for' below). In addition, the Greener Practice Network provides an opportunity to discuss with others who are thinking about and taking action on sustainability and carbon reduction. Our hope is to build networks within SEL Primary Care as well
- none of us have all the answers and we want to hear your ideas

Who is this plan for?

We welcome anyone reading this plan. Perhaps you are interested in sustainability and want to get some ideas or you live in the area and want to know we are taking sustainability seriously, please read on. Primarily though, this plan is aimed at people who work in primary care in one of the six boroughs in South East London.

We hope this can be used to identify actions you can take as well as outline what other organisations and the ICS will be working on.

There are a lot of actions!

In each section, as well as outlining some of the things that might have already happened, we have outlined several actions that we want to happen over the next three years. We believe these will help us make demonstrable progress in reducing our carbon emissions.

Importantly though, we are not asking you to do all of these. We want to now work with primary care to identify how and whom these are best delivered. Much of this is already happening through other workstreams or teams and we will continually challenge ourselves to ensure we are balancing the right level of ambition with what we think is manageable.

We hope you will be part of this journey,

Nancy and Andrew

Nancy Kuchemann

GP member of the NHS SEL CCG Governing Body

Primary Care Sustainability Lead

Andrew Parson

GP member of the NHS SEL CCG Governing Body

Primary Care Sustainability Lead

South East London ICS

Summary: Priorities for Year 1

1 Workforce and System Leadership

Identifying, educating, and resourcing clinical climate champions aligned to our 35 PCNs, who will in turn be supported by ICS level leadership with protected time to work on the primary care green plan

2 Models of Care

For SEL ICS supporting PCNs to explore innovative models of care that aim to tackle neighbourhood health inequalities and create health within communities

3 Digital Transformation

Working with the CCG/ICB to continue the digitisation of patient records in general practice

Working with the CCG/ICB to identify current baseline, areas of good practice in SEL, and barriers to digitalisation

Working with the CCG/ICB to review a support package for patients, which could include expansion of remote monitoring for people who may benefit the most

4 Travel and Transport

Identifying facilitators for and barriers to active travel in staff and patients by practice/PCN

With the CCG/ICB, using the results to inform a place-based approach to the development and delivery of an education package for health professionals to enhance the dialogue with patients and service users about the benefits of active travel

5 Estates and Facilities

Measuring the baseline energy use within practices to see if individual practices are above or below average energy users, while supporting practices with actions to reduce estates-related emissions

6 Medicines

With the Medicines Optimisation Team, ensuring that primary care staff have the training and support to identify patients at high risk of overprescribing, and to facilitate deprescribing

A key focus will be the use of reliever inhalers: this treatment indicates poor disease control, is associated with significantly higher morbidity/mortality, and is one of the most environmentally damaging inhalers prescribed

7 Sustainable Respiratory Care

Running educational events about sustainable respiratory care to support practices in meeting the IIF targets for improving inhaler prescribing and optimising asthma care

8 Supply Chain and Procurement

Contributing to the development and implementation of a joint sustainable procurement policy and guidance across SEL ICS and contributing to sharing best practice

9 Adaptation

Reviewing, within the PCN estates survey, the adaptation plans for heat and extreme weather events, with a focus on heat adaptation plans and the immediate improvements needed to healthcare premises in general practice

10 Health Inequalities

Reducing health inequalities to be embedded as an action at every level of work under review by SEL ICS when implementing the green plan

11 Biodiversity and a Nature-Positive NHS

Exploring the nature-based prescribing opportunities in SEL in collaboration with the VCSE sector and other partners in the ICS

Introduction

In October 2020, the NHS became the world's first health system to commit to delivering a net-zero service by 2045.

Primary care is responsible for approximately 23% of the total NHS carbon emissions footprint — about 5.75 million tonnes per year, amounting to 1% of UK greenhouse gas emissions. Clinical carbon accounts for 60% of emissions from primary care, with pharmaceuticals being the biggest 'hotspot'. For non-clinical carbon (the other 40%), 'hotspots' include staff travel (10,500 tonnes) and patient travel (6,000 tonnes).

To achieve a reduction in carbon emission across South East London (SEL), we calculated the carbon footprint for primary care in SEL ICS to act as a baseline from which changes to achieve net zero can be measured. The aim of this plan is to set out an initial three-year plan to reduce the carbon footprint across SEL and 'mainstream' sustainability into the day-to-day work of primary care without imposing a considerable amount of additional work.

In this plan, primary care encompasses all organisations involved in providing primary care services to the population.

An important next step will be to expand our engagement on decarbonisation to include the full range of primary care service providers.

Challenges for general practice

Developing and enabling culture change across 200 GP practices in SEL requires a coordinated approach and strong leadership by committed individuals at a time when it is widely acknowledged that general practice is in crisis. Throughout the pandemic, general practice has been required to work differently and respond to the needs of their registered population and through Primary Care Networks (PCNs) to support the delivery of the COVID-19 vaccination programme.

This put the service under extreme pressure and despite working to the NHS England guidance there was a perception in some media sources that general practice was closed during parts of the pandemic, significantly damaging morale. With challenges in the recruitment and retention of staff, limited time, and the constraints of the estate, additional workloads have felt unmanageable. Hospital wait times are lengthening and access to 'non-medication alternatives' for patients have been limited, which together with rising demand can act as a barrier to change for all.

We acknowledge that broader work on prevention and health creation relating to reducing carbon emissions requires a long-term perspective, innovative thinking, and embedding changes into day-to-day behaviour.

Primary care delivery of high-quality, efficient, and environmentally sustainable care can benefit through systems further aligning ways of working and care pathways across all sectors.

Bringing primary care, community care, and secondary care together along with local authorities, and voluntary sector organisations (VCSE) within Local Care Partnerships (LCPs) can address inefficiency and duplication with co-benefits for patients and the environment.

In addition, increased demand on primary care leadership to address the challenges of implementing emission- reduction initiatives will need to be recognised and resourced.

Key partners such as PCNs, federations, training hubs and Local Medical Committees (LMCs) working across LCPs can play a pivotal role.

Although the challenges of reducing non-clinical carbon emissions are unique to each practice, there is the opportunity for learning through sharing resources and implementing good practice across PCNs and LCPs.

Barriers can be social (such as through management, knowledge, awareness, eco-literacy, size of social network, or capacity within peers), financial or environmental (for instance, through size of premises, type of tenancy, supply chain issues, 'greenness of suppliers, and the availability of goods and services).

Some of these problems can be overcome through a combination of education and specific support (e.g., a central primary care-specific energy manager, a primary care-specific travel manager, through a social-value procurement framework or a low-carbon directory of goods and services). Strategic assistance and enablement at ICS level can allow place-based or practice-specific solutions to be implemented.

The aim for the primary care green plan is to encourage the implementation carbon-reduction initiatives while continuing to provide high-quality clinical care for patients, with an emphasis on supporting patients to thrive within their communities.

Throughout this plan we have emphasised that education and training are integral to change. The ICS understands resources will be needed to allow for protected learning time and incentive schemes for this green plan to be implemented.

These resources have been referenced under the aims and actions allocated to the various areas of focus.

South East London ICS

Carbon emissions from primary care in South East London ICS

Carbon emissions in primary care are calculated using the metric of 'kg of carbon dioxide equivalent' ($kgCO_2e$). Emissions are from a variety of sources including the prescription of medicine and inhalers, energy and electricity use in estates and buildings, travel by staff and patients, and the procurement and use of goods and services.

In this section, we report on the carbon emissions from general practice as part of primary care in SEL ICS using publicly available data that was easy to access. The main sources of carbon emissions in general practice can be divided into clinical (medicines, prescribing and inhalers) and non-clinical (energy, travel, goods, and services). Figure 1 shows the relative proportion of the two main sources of emissions in general practice in SEL ICS.

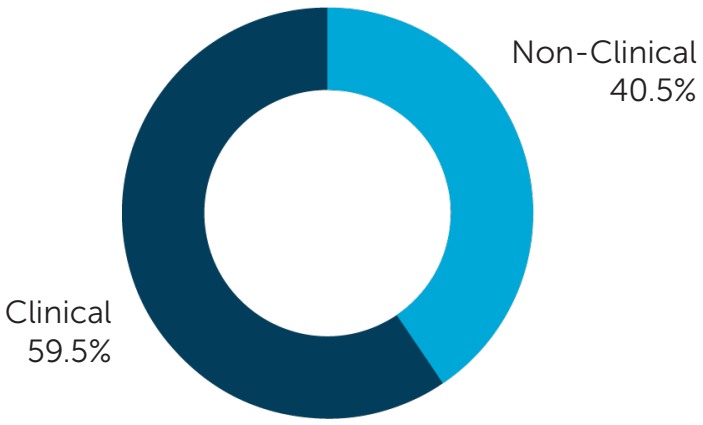


Figure 1: SEL ICS general-practice carbon footprint by main source of emissions: clinical and non-clinical.

Non-clinical emissions

The overall breakdown of sources of emissions for the non-clinical carbon footprint for general practice in SEL ICS is shown in Figure 2, with details of the amounts of carbon emissions in Table 1.

Table 1:General practice carbon emissions in SEL ICS by source

Emissions source	Emissions (tonnes CO_2e)
Non-clinical	**30,867**
Energy (estates)	7,521
Staff Travel	10,531
Patient Travel	6,050
Business Services	4,510
Goods and Procurement	2,255
Clinical	**45,304**
Total	**76,171**

The current analysis provides us with a baseline for general practice across SEL, which is a good starting point for carbon-reduction initiatives, highlighting where change is needed, and which hotspots to focus on, not only for general practice, but also as an indication of what could be achieved by other types of primary-care service providers. Carbon-reduction initiatives specific to dentists, opticians, pharmacists, and other primary care service providers would require the development of a baseline for those types of service provision, which would then give a full picture of the carbon emissions from primary care in SEL ICS.

More information about non-clinical carbon will be provided throughout the plan where relevant. The methodology for the carbon footprinting of general practice in SEL ICS is detailed in Appendix 1.

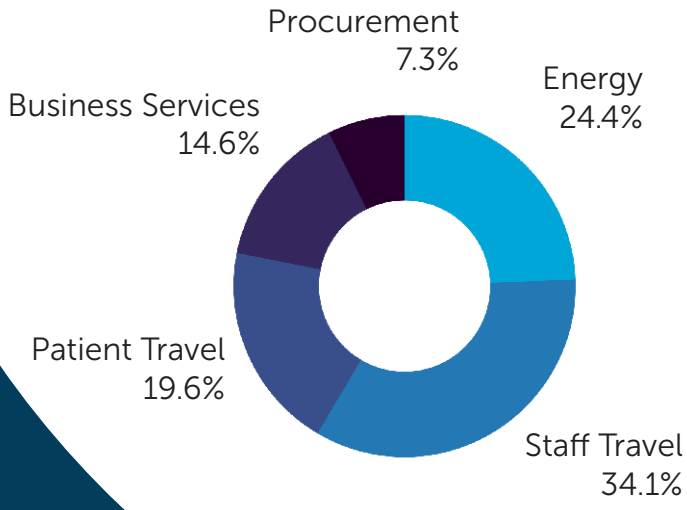


Figure 2: Non-clinical general practice carbon footprint of SEL ICS by source of emissions. (The term 'Business services' encompasses the services used to run practices, e.g., IT, telephony, waste, water, accountancy, payroll, banking and the term 'Procurement' covers medical and office goods and equipment bought.)

South East London ICS

Areas of Focus

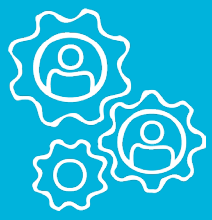
Workforce and System Leadership

Achieving net zero not only requires strong workforce and system leadership, but also requires listening to staff and patients, such that any changes made are good for patients, the local population, and the planet.

For sustainability to be embedded into primary care, it must be acknowledged as a core value for quality in primary care and not as an additional ask for general practice. Primary care staff and providers may apply the 'triple bottom line' in decision-making to ensure that any changes to care which reduce environmental impact also improve health outcomes (see Figure 3).

$$\text{Value} = \frac{\text{Outcomes for patients and populations}}{\text{Environmental + social + financial impacts (the 'triple bottom line')}}$$

Figure 3: Sustainable value in healthcare and the 'triple bottom line'

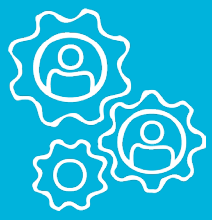


Achievements so far

- SEL are establishing a primary care steering group, and leads from a variety of boroughs have helped develop this plan. We aim to expand the membership of the steering group to ensure representation from all boroughs. In addition, current groups of Primary Care leads across SEL and in different boroughs have been briefed about SEL's ambitions and to shape the approach being taken. As part of the green plan, a survey was sent out to general practice to gather views about current status and support needed.
- There is an engaged network of healthcare professionals working on environmentally sustainable medicines and respiratory care who will provide ongoing support to deliver the plan (for further detail, see Sustainable Respiratory Care).
- A number of training places for primary care sustainability courses have been made available to primary care to help with the important education around this work.
- A south London Greener Practice group has been established and GPs from SEL are being encouraged to join. This will provide a network for practices who are interested to take this forward and there has been an enthusiastic response.

Commitment

- **SEL ICS will collaborate with primary care stakeholders to increase the sustainability of primary care, and to extend the benefit beyond primary care into the surrounding communities and local populations.**

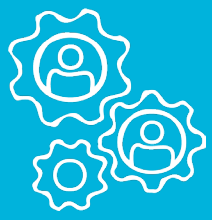


Priorities for Year 1

- Identifying, educating, and resourcing clinical climate champions aligned with our 35 PCNs, who will in turn be supported by ICS-level leadership, with protected time to work on the primary care green plan

Overall aims and actions for the next 3 years: Workforce and System Leadership

Aims	Actions
To establish and maintain climate leadership roles	Develop a role for 'clinical climate coordinators', where champions can be identified and given support/protected time or funding to work on Sustainability in Primary Care. Alongside this, establish and develop the capacity of a steering group for primary care leadership in environmental sustainability. Identify and implement administrative support to coordinate steering group and clinical champions. Arrange regular opportunities for primary care staff to discuss achieving net zero and optimising primary care sustainability, e.g., by holding a sustainability summit or utilising Protected Learning sessions. Explore the opportunities for clinical fellowships, to help support the implementation of the primary care green plan and sustainable quality improvement (SusQI). Gain support from the SEL ICS QI team, primary care commissioning and planning teams to help embed sustainability as a core value for quality in primary care, and to engage in SusQI projects. Provide informal peer support systems through the 'Greener Practice South London' network (for more information, contact greenerpracticesouthlondon@gmail.com).
Where possible, to co-design changes to primary care with patients and service users	Engage with existing practice and other patient participation groups on proposed changes to achieve net zero, improve primary care sustainability, and optimise existing and/or introduce new models of care.



South East London ICS

Overall aims and actions for the next 3 years: Workforce and System Leadership

Aims	Actions
To actively disseminate learning, good practice, and appropriate resources across primary care in SEL ICS	Collate examples of good and promising practice from primary care across SEL ICS. Actively disseminate learning, examples of good practice, and resources.
To raise awareness among patients and local communities of the impact of environmental risks on health and wellbeing	Support primary care staff in identifying patients at greatest risk from extreme heat and cold and for fuel poverty. Make training available, e.g., from Global Action Plan's Clean Air Hub on the health impacts of air pollution in London.
To develop primary care workforce skills in sustainable healthcare	Provide training in sustainable healthcare for primary care staff, e.g., through protected learning time. In collaboration with the climate coordinators/champions network, explore the potential for a "Train the Trainer" model to cascade skills development in sustainable healthcare throughout primary care in SEL ICS. Develop an online training and skills development programme accessible to all primary care staff, for example e-Learning for Health and ongoing optional training, for example, in SusQI, greener respiratory care, carbon footprinting, and leadership for sustainability.
To celebrate the achievements of primary care in carbon reduction and sustainable healthcare	Develop and implement a rewards scheme (certification) to recognise and acknowledge achievements by individuals, general practices, and PCNs in carbon reduction and sustainable healthcare. Actively disseminate information about the achievements recognised by the rewards scheme through the appropriate networks.

South East London ICS

Sustainable Models of Care

The term models of care broadly describe the way healthcare is delivered. Most of the carbon footprint from primary care is from providing clinical care (see Figure 1). Sustainable clinical care aims to reduce emissions, while supporting patients to thrive within their communities through high-quality, person-centred, population-based healthcare.

There are four components to sustainable clinical care:

1. to strengthen disease prevention and health promotion
2. to focus on person-centred care and patient empowerment
3. to deliver lean systems
4. to consider low-carbon alternatives where appropriate

Building sustainability into models of care, and evaluating the outcomes, is complex and will require collaboration across organisations, in partnership with communities, patients and service users.

South East London ICS

Achievements so far

- Prevention, early intervention, person centred care, reducing of unnecessary treatments and interventions, overdiagnosis, integrated care pathways, and social prescribing, are already well established within primary care in SEL (see examples in case-studies 1 and 3).
- In addition, innovative place-based approaches that are co-designed with communities that blends clinical and social factors to address health inequalities are being adopted. In North Lewisham PCN these combine clinical practice and community development – along with community advocacy, campaigning and multi-disciplinary collaboration. These aim to identify patients at increased risk of particular conditions, predict the timing and location for interventions, and allow residents the ability to design and tailor health services available within their community with approaches that blend clinical and social factors in addressing health inequalities and inequities and create health within communities (see case-study 2).

Commitment

- **We will optimise existing sustainable models of care and introduce new models of care that are sustainable, in addition to reducing carbon emissions through a place-based approach**

Priorities for Year 1

- For SEL ICS, supporting PCNs to explore innovative models of care that aim to tackle neighbourhood health inequalities and create health within communities

Overall aims and actions for the next 3 years: Sustainable Models of Care

Aims	Actions
To support prevention of ill-health and promotion of wellbeing across SEL	Embed prevention at key points in patients' contact with healthcare. For instance, by utilising Make Every Contact Count (MECC) , signing up for physical activity clinical champion training http://physicalactivity@phe.gov.uk/, or by optimising pathways from clinical care to interventions that improve wellbeing within communities (see Case-study 2) Review existing good practice in remote monitoring and early detection (see Digital Transformation) and explore expanding this, with a focus on patients identified as having the greatest priority. Virtual Care - South East London CCG (selondonccg.nhs.uk)
To deliver compassionate whole-person care for people with frailty, people at end of life, and people with a life-limiting condition	To undertake Anticipatory Care Planning for people with moderate and severe frailty or a life-limiting condition to reduce unwanted and unnecessary care. Explore current models of care for this in SEL, including the role of complex care GPs and a multidisciplinary approach.
To develop joined-up services across health and the voluntary and social enterprise (VCSE) sector	Collaborate with communities and the VCSE sector in SEL when embedding sustainability into models of care, with the aim of addressing inequalities. Listening and taking into account of the insights, knowledge, and experience of the VCSE organisations in SEL ICS through collaborative engagement and involvement in any future summits.

South East London ICS

Overall aims and actions for the next 3 years: Sustainable Models of Care

Aims	Actions
To improve outcomes in population health and healthcare	For PCNs to take a population health approach when developing sustainable models of care to ensure those models incorporate and address the wider determinants of health. This approach should focus creating health within communities to tackle neighbourhood health inequalities (see Case-study 2, Appendix 2, and Health Inequalities for more information). Engage with the relevant directorates and departments (e.g., public health, social care, housing, urban planning, environmental health, trading standards, licensing) within SEL's local authorities when incorporating and addressing the wider determinants of health into sustainable models of care. Work with the Business Intelligence Team to extract, analyse, and interpret data regarding potentially unnecessary and futile interventions to assess whether there is variation across SEL ICS.

Case-study 1

The Physical Activity Referrals project

This project was conducted in 2020–21 by Sport London, with nine referral programmes across London, including three of Lewisham's Social Prescribing Providers. It looked at key issues that supported an individual's smooth and effective referral process into physical activity and other non-medication interventions. Within this, it explored how local referral agencies can use Open Data to make it easier for their service users and link workers, or other health and social care professionals or volunteers, to find a local physical activity or sport session that is right for them. Get Active is the Open Data powered activity finder developed through this project. It gathers feeds from activity providers who have made their activity opportunities Open Data compliant. As part of the project, 11 areas of unmet need were identified, and further work has been proposed to develop pathways further.

Case-study 2

PCN inequalities

North Lewisham (NL) PCN has started a process of transformation in how it works with both individuals and communities, to enable its residents to thrive and become part of a healthier society.

The work of NLPCN is co-designed with the community and eliminates hierarchies between professionalised services and the community they work with. A strategic vision has been co-designed and adopted to guide its work on health inequalities (both inside and outside the surgery), address the social determinants of health, and improve health outcomes. The PCN has pledged to work with the community and other partners (such as local authorities, housing and VCSE) to advocate for systems-wide change, and to produce a shift to place-based approaches that blend clinical and social factors in addressing health inequalities and inequities.

The NLPCN is developing new approaches that combine clinical practice and community development to identify patients at increased risk of particular conditions, predict the timing and location for interventions, and allowing residents the ability to design and tailor health services available within their community. This is allowing innovative approaches of community led outreach health promotion activities, piloted through the PCNs work in providing outreach COVID vaccine clinics.

Public Health Lewisham with the CCG/ICB are looking to expand the NLPCN model and community-based approach with health equity fellows and community connectors due to be trained and appointed in each PCN in Lewisham, connected by a community of practice.

Case-study 3

Lewisham's social prescribing service

Matthew is a 50-year-old with a learning disability. Lewisham Speaking Up (LSUP) referred Matthew to Community Connections Lewisham (CCL) to give him support with accessing the Internet and to improve Matthew's overall wellbeing. A Community Facilitator telephoned Matthew, who described his extreme social isolation due to a COVID-19-related shortage of work. Matthew is also dealing with a recent bereavement. Matthew would like to meet new people and increase his social involvement, but he suffers from allergic rhinitis, leg pain, and anxiety which often hinders him from going out.

CCL provided Matthew with a refurbished smart phone and 12 months of free top-up through the Community Calling scheme and introduced him to virtual aid sessions on how to use the device. Matthew was also referred for a telephone befriender, to Lewisham Bereavement Counselling, peer support groups, and to the Samaritans for urgent counselling. Matthew has also joined Lewisham's Healthy Walks, which he really enjoys.

Matthew is now confident enough to resume working as a volunteer in a local charity. He is keen to explore paid employment opportunities and has been referred to Toucan employment support. Lewisham Speaking Up fed back to CCL, "I'm glad you were able to give him all this other help: he sounded much more upbeat!"

South East London ICS

Digital Transformation

The NHS Long Term Plan sets out the critical priorities that will support digital transformation over the next decade. Digital transformation is seen as a step change in the way the NHS cares for patients, with improvements in care underpinned by technology. Digital transformation enables many of the wider service changes set out in the Long-Term Plan.

In general practice, digital transformation thus far has encompassed:

- Online registrations
- Electronic patient communication (via short message service SMS / email)
- Use of the NHS App for care planning

Apart from being an important component of developing the 'future' NHS, digital transformation has the potential to reduce the carbon emissions associated with healthcare and to increase sustainability, particularly through reducing the need for patient and service-user travel.

Although remote consultations can reduce carbon emissions and sometimes be easier or more convenient for patients, they are not appropriate in all cases. It is important:

- To recognise the limitations of remote consultations as well as the benefits
- To ensure individualised care, including the 'right' type of contact for the patient
- To consider patient and service-user access to digital devices
- To take account of people's existing access to healthcare services

Achievements so far

- In South East London, many practices are utilising online consultations, and enabling patients and service users to consult remotely. The proportion of the different types of appointments attended by patients in December 2021 are shown in Figure 4. The number of face-to-face appointments was greater than telephone appointments, but the percentage share of appointments was relatively similar, comprising 49.1% and 47.9%, respectively. There were relatively much fewer home visits (0.4%), and online/video consultations (0.1%).
- SEL ICS together with its key partners has developed a Digital Transformation Strategy for 2021-2025 which recognises digital transformation as a key driver of change. It explains how digital transformation will become an integral part of the ICS's clinical, business and population health strategies at ICS system level.

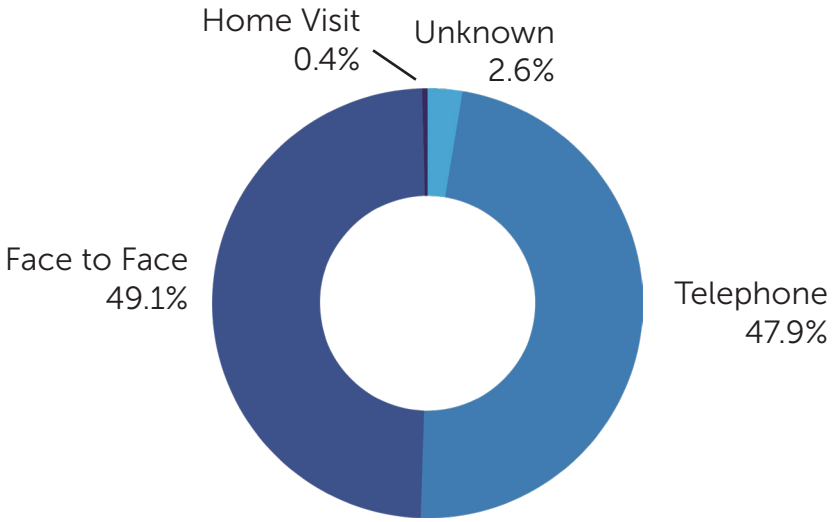


Figure 4: Type of appointments attended in general practice in SEL ICS, December 2021. Data from NHS Digital.

Commitment

- **SEL ICS will implement the ambitions of the NHS Long Term Plan 'Digital Transformation' by providing tools to patients to enable them to gain more control over their health and care, by providing staff with technology to complete administrative tasks more quickly, and by joining up NHS IT systems to provide more comprehensive records.**

Priorities for Year 1

- Working with the CCG/ICB to continue the digitisation of patient records in general practice
- Working with the CCG/ICB to identify current baseline, areas of good practice in SEL, and barriers to digitalisation
- Working with the CCG/ICB to review a support package for patients, which could include expansion of remote monitoring for people who may benefit the most

Overall aims and actions for the next 3 years: Digital Transformation

Aims	Actions
To continue the digitisation of patient records in general practice across SEL ICS (with the GPIT/ ICS Digital Team)	Complete the digitisation of patient records in general practice by the end of March 2023 as per the GP contract (see Box 1).
To reduce patient and staff travel by utilising digital support	With the ICS Digital Team and primary care planning and commissioning team: • support options for general practice staff to work from home, where appropriate. • support and provide access to a range of appointment types, including digital and remote options where appropriate, to ensure the provision of individualised care for patients and service users in general practice.
To develop a consistent and practical electronic health record that can be shared across primary and secondary care, including urgent care	Work with the ICS Digital Team and the NHS Trusts in SEL to increase clinicians' ease of access to patients' up-to-date and accurate electronic health records at point of care. Work to improve decision-making, not only about appropriate care but also resource use. Share aggregated data on outcomes in relation to interventions to improve outcomes across SEL ICS.

South East London ICS

Overall aims and actions for the next 3 years: Digital Transformation

Aims	Actions
To work with the ICS Digital Team, Primary care planning and commissioning teams and the NHS Trusts in SEL to identify and support patients with the greatest need	Explore the use of information technology to identify and prioritise patients with long-term conditions who have the greatest need for support. Explore supporting patients with remote self-management where appropriate.

Digital Transformation

Box 1

Potential of electronic health records to increase the sustainability of healthcare and improve health outcomes

- Improve the quality of care processes
- Increase the effectiveness of care
- Reduce medication errors and improve patient safety
- Reduce unnecessary interventions
- Improve communication amongst clinicians/healthcare providers, and between clinicians/healthcare providers and patients or service users
- Improve coordination of care
- Enable the sharing and exchange of data among health and care providers
- Improve data on public/population health providing insights for prevention and health creation

Case-study 4

Mental healthcare in Greenwich

Mental health for many in SEL has undoubtedly suffered during the pandemic and all 6 boroughs across SEL have seen an upsurge in demand for mental health provision but the waiting lists for triage, assessment and treatment have increased.

The Mental Health Phone Advice & Guidance Project in Greenwich is a service in which health professionals are able to speak to mental health specialists from Oxleas NHS Foundation Trust, via telephone, in seconds. This service has:

1. Improved communication between primary and secondary care

2. Reduced unnecessary referrals (with reduced unnecessary staff and patient travel)

3. Each phone call takes 39 seconds on average and can be done with the patient in the consulting room

4. 48% of calls to the service have resulted in a referral being avoided

Case-study 5

Lloyd George Project

The GP contract requires that by 2022/23, Lloyd George notes will be digitised, and patients will have access to their records. For South East London with over 2 million patients the cost to deliver this service will be over £9 million. The CCG teams in six boroughs have been working together since 2018 to digitise records at nearly 50 sites.

The main benefits to practices are:

1. to support and improve remote working where paper records have been digitised and are available in the patient record;
2. to free the storage space in the practice, which could otherwise be used for clinical or administrative functions or, if records are being held off-site in long-term storage, to remove ongoing revenue costs;
3. to increase business continuity – the digitisation of paper records will preserve patient records for longer and prevent potential damage or loss of paper records if there is a fire or flood at the practice.

South East London ICS

Travel and Transport

Travel to and from surgeries comprises a considerable proportion of non-clinical general practice emissions. In SEL ICS, travel forms 54% of the non-clinical carbon footprint for general practice (Figure 2). The travel footprint is split into staff and patient travel. Decarbonising transport involves avoiding unnecessary travel, facilitating, encouraging and enabling active travel where possible, and facilitating and encouraging the use of public transport where possible.

Data for staff and patient travel was collected from the Care Quality Commission website, which provides information on the number of staff employed and the size of the patient list at each practice. Of the 241 practices (including branch practices) within SEL ICS, a patient list size was available for 216 practices (90% of the practices) and data about the number of staff was available for 140 practices (58%).

Patient travel

There are 1.9 million patients registered with practices in SEL ICS. Using data from the National Travel Survey and based on the number of face-to-face appointments in general practice in SEL ICS, the estimated emissions from patient travel is in the region of 6,000 tonnes CO_2e per year.

Staff travel

There are around 4,400 staff working in general practice across SEL ICS based on analysis and extrapolation of sample data from 58% of practices. Using figures from travel surveys of primary health care staff across England the emissions from staff travel in SEL ICS are estimated at 10,500 tonnes CO_2e per year.

Changing the status quo

A shift to forms of active travel has the potential to have the greatest net improvement in health and wellbeing, by reducing the carbon footprint of primary care and increasing levels of physical activity in patients and staff.

A shift from car-dominated travel patterns will reduce harms from physical inactivity, air pollution, climate change, road traffic injuries and deaths, noise, and the negative impact that heavy traffic has on social connectedness in communities.

Public health perspective

Physical inactivity directly contributes to one in six deaths in the UK. Adults should aim for 150 minutes of physical activity per week; children and young people should be active for 180 minutes daily until the age of 5 years, and for 60 minutes daily from the age of 5 years.

If Londoners swapped motorised trips that could reasonably be walked and cycled (i.e. journeys less than 2 km), 60% of them would meet the recommended 150 minutes of physical activity through active travel alone.

The population of London would gain over 60,000 years of healthy life every year as a result and this would deliver an economic health benefit of over £2 billion annually.

South East London ICS

Achievements so far

- SEL CCG/ICB is collaborating with key stakeholders such as Sustrans to commission work to support active travel. This will include intensive work with Primary Care Networks (PCNs) to understand the barriers to staff in active travel and work with them to resolve this as well as develop champions who can then continue the work after the project has finished.
- As part of the project there will also be support for PCNs to increase their social prescribing related to active travel for patients.
- In addition, there is a commitment to disseminate information on active travel routes. Incentives such as cycle to work schemes and subsidised TfL cycle hire already exist across all boroughs. The CCG/ICB has also purchased 60 cycle storage racks which practices will be able to request as we know this is a barrier for some.
- Further information about local active travel schemes already available are listed in appendix 3.

Commitment

- **SEL ICS will encourage patients and staff to increase their uptake of active forms of travel, through education and engagement.**

Priorities for Year 1

- Identifying facilitators for and barriers to active travel in staff and patients by practice/PCN
- With the CCG/ICB, using the results to inform a place-based approach to the development and delivery of an education package for health professionals to enhance the dialogue with patients and service users about the benefits of active travel

South East London ICS

Overall aims and actions for the next 3 years: Travel and Transport

Aims	Actions
To create a culture that promotes and embeds physical activity interventions within routine clinical care	Practice teams to support patients, especially those who are currently inactive to become more active (including through active travel where appropriate). This could be through through training sessions with SEL Physical Activity Clinical Champions (free training sessions on physical activity for practice staff with a SEL are available - Physical Activity Clinical Champion. http://physicalactivity@phe.gov.uk/, or by signing up to the RCGP Active Practice Charter).
To collect information about travel behaviour among primary care staff and patients and service users	SEL ICS to share a template for staff travel surveys among practices. SEL ICS to support surveys of patient and service-user travel to general practice. SEL ICS to coordinate data collection about travel behaviour among primary care staff and patients and service users, including developing a baseline and identifying the perceived barriers to active travel. SEL ICS to analyse the travel data to identify which actions it would be most effective to implement to encourage a shift to active travel.
SEL ICS to support a shift to active travel at the level of general practice	SEL ICS and primary care team to develop support to help health professionals in primary care discuss shifting to active forms of travel. SEL ICS to conduct outreach work and create resources with practices to support a shift to active travel. General practice in conjunction with SEL ICS to consider the most appropriate actions for implementation, including safe storage for bicycles, installation of electric vehicle charging points and associated infrastructure, and the promotion and implementation of low-carbon transport services, such as home delivery from community pharmacies.
To work in partnership with local services to encourage staff and patients and service users to cycle and walk	General practice to work in partnership with their local cycling groups to offer patient-focused sessions that can be held at GP premises. (See Appendix 3 for information.) SEL ICS to promote maps/apps supporting active travel such as cycle routes and green routes, such as Go Jauntly, the Green Chain Walk, and cycle route planning apps.

Case-study 6

Smoking cessation and free cycle hire in Lewisham

- Exercising at the time of smoking cessation may increase successful quit rates.
- This pilot, due to start in March 2022, and led by a GP at Morden Hill Surgery, will fund up to 3 months of the "Try Before You Bike" offer for 18 individuals who are being seen by the Lewisham smoking cessation service following a hospital admission.
- The offer covers cycle skill sessions and the provision of equipment.
- The carbon-saving potential of this initiative is substantial:
    - Reduced environmental impact related to the production and transport of tobacco, and reduced air pollution due to tobacco cessation
    - Potential for a modal shift from car to bike
    - Health improvement from smoking cessation and an increase in physical activity
    - Improved self-efficacy in other areas of healthcare leading to further disease prevention and health improvement

Case-study 7

HEAT tool

Health impact assessments such as HEAT can be used to demonstrate the value of walking and cycling to the local health economy. Using the HEAT tool, one medium-sized practice in Lewisham found that the impact of practice staff travel produced enough air pollution to shorten the lives of the population of Lewisham by 1 day, 10 hours and 18 minutes, every week. This equates to 74 days every year.

South East London ICS

Estates and Facilities

Energy use (gas and electricity) is responsible for about 25% of the SEL ICS non-clinical emissions for primary care (see Figure 2). This is about 7,500 tonnes CO_2 a year.

The data for energy use within general practice in SEL was collected from Energy Performance Certificates (EPCs) and Display Energy Certificates (DECs) from the UK Government website. These certificates provide information on building floor space, by kWh/m²/year for electricity and by kg CO_2/m²/year, and kg CO_2/year for gas usage.

Of the 241 practices (including branch practices) within the SEL ICS, 103 practices either had an EPC, a DEC, or both. These represent 43% of the practices within the ICS.

Based on this sample, the emissions from energy use for general practices in SEL ICS are around 7,521 tonnes CO_2 per year. In Figure 5, a percentile graph shows the distribution of kgCO_2e/m²/year within the sample.

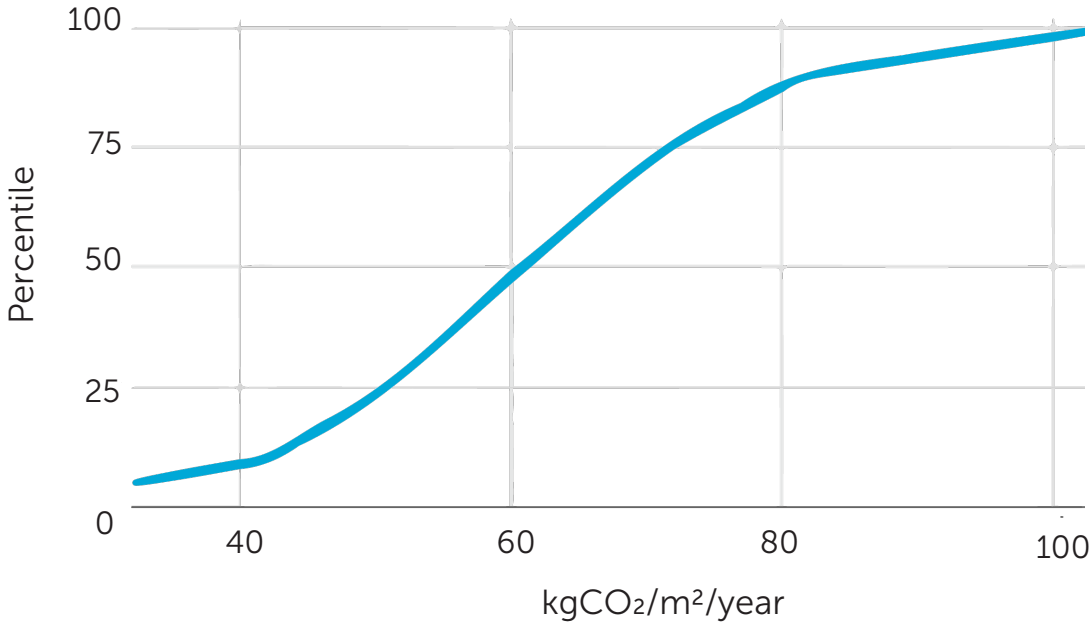


Figure 5: Percentiles of the emissions per floor space per year of the 103 practices in SEL ICS with emissions data.

South East London ICS

Percentiles use a scale of 100 to represent the distribution of data points in ascending order. In Figure 5, the distribution of the emissions per floorspace per practice in SEL ICS is shown. The 100th percentile (right side of Figure 5) is the practice with the most energy use per m² per year. The 1st percentile (left side of Figure 5) is the practice with the lowest energy use per m² per year.

The 50th percentile is the midpoint of the data in ascending order. Based on a smaller sample size, median electricity use is 65 kWh/m²/year, and gas is 134 kWh/m²/year. Practices can use this information to determine if they are above or below the median value for general practices in SEL ICS.

Achievements so far

- A carbon footprint for the primary care estate has been undertaken for the first time in SEL. This will form a baseline for the monitoring of progress on carbon reduction and help identify carbon 'hotspots' where we can have the greatest impact on carbon reduction. Table 2 shows the practices in SEL ICS with the lowest emissions.

Table 2: The 10 practices in SEL ICS with the lowest emissions per metre of floorspace based on publicly available EPCs and DECs.

Practice/Branch Name	Emissions per floorspace per year ($kgCO_2/m^2/year$)
Bromley Common Practice (G84024)	13.20
The Old Dairy Health Centre (G85706)	13.79
Clapham Park Group Practice (G85109)	15.24
Royal Arsenal PMS (G83016)	22.73
St John's Medical Centre (G85038)	31.90
Palace Road Surgery (G85041)	33.74
Woolstone Medical Centre G85061)	34.22
Wallace Health Centre (branch surgery of Burney Street PMS)	35.90
The Vale Medical Centre (G85696)	37.15
Bexley Group practice (G83028)	41.97

South East London ICS

Commitment

- **We will run energy-efficient premises supplied by 100% renewable energy.**

Priorities for Year 1

- Measuring the baseline energy use within practices to see if individual practices are above or below average energy users, while supporting practices with actions to reduce estates-related emissions.

Overall aims and actions for the next 3 years: Estates and Facilities

Aims	Actions
To review the support and infrastructure available from estates teams to increase energy efficiency in primary care	SEL ICS to support practices to engage with key estates managers and landlords to increase energy efficiency. Incorporate sustainability into Estates surveys and subsequent delivery and response.
To measure energy use within individual practices	Identify a baseline for each practice by recording annual consumption (e.g., kWh/m^2/year) from practice-level energy bills and comparing energy usage among practices (Figure 5). Install smart meters, and/or recording equipment specific to energy use.

South East London ICS

Overall aims and actions for the next 3 years: Estates and Facilities

Aims	Actions
To develop tailored energy-efficiency actions across general practices in SEL ICS according to their specific needs and circumstances	Identify appropriate energy-efficiency actions for individual practices, considering the options available and practicable, such as 'Make every kWh count' (covering energy-saving measures such as improving building fabric), assessing the efficiency of equipment (through monitoring, servicing and maintenance), or making preparations for non-fossil fuel heating. Local resource available: Practice Decarbonisation guide created by SEE Sustainability for SEL ICS primary care premises.
To purchase electricity from a renewable electricity supplier	Where possible, general practices to change their electricity supplier to one that is a 100% renewable supplier.
To explore the potential for electricity self-generation at individual practices	Individual general practices with the capacity to explore opportunities for installing the means for electricity self-generation (e.g., solar photo-voltaic panels or wind turbines).

South East London ICS

Medicines

Medicines account for the largest carbon emission 'hotspot' in primary care; however, it is important to bear in mind that medicines are beneficial in the care of patients. High-quality, person-centred clinical care using medication that supports patients to thrive within their communities has a lower clinical and non-clinical carbon footprint.

The Ridge report states that 'there are times when people are given the medicines they don't need or want, where harms of medicines outweigh the benefits, or where a better alternative could be given'. Although medicines use has always needed an assessment of patient outcome, there is increasing acknowledgement of the risks of medicines.

It is estimated that 30-50% of medications prescribed for long-term conditions (LTCs) are not taken as intended; in airways diseases, e.g., asthma or chronic obstructive pulmonary disease (COPD), non-adherence rates are even higher. Overprescribing can have a considerable impact on healthcare expenditure, patient wellbeing, and the carbon footprint of healthcare.

Lower carbon alternatives

Prevention of illness is the best way to reduce carbon emissions from medicines. Low-carbon models of care will require cross-organisational approaches that involve different professional groups including digital teams in the NHS, social prescribing link workers, and VCSE communities.

Non-pharmacological alternatives to medicines include nature-based prescribing, social prescribing, active travel to healthcare settings, smoking cessation, availability of physiotherapy, and psychological therapies. These domains are addressed in the models of care section of the plan.

Reducing Medicines Waste

The greatest waste of medicines results from those that are never taken patients. Not only does this have clinical implications for the individual, but in the case of aerosol inhalers that contain powerful greenhouse gases as propellants it has a devastating environmental impact. Over-ordering of medicines is complex and can be caused by several factors, such as ordering by third parties, the routine issue of medicines that are appropriate only as 'as required' therapy, or prescribing a medicine when the patient has stopped using it or is unable to use it optimally.

A detailed review of these factors in conjunction with community pharmacy teams is required before effective and appropriate action to reduce medicines waste can be taken.

Achievements so far

- Work is underway to address overprescribing; key medicines optimisation initiatives have been embedded in all sectors of care in SEL. SEL ICS will prioritise overprescribing and are appointing a System Lead Pharmacist for Overprescribing, who will work within the ICS and externally (including the National Clinical Director for Overprescribing) to oversee change and strategy. Embedding sustainability, and clear reporting and governance will be key to mapping progress.

Commitment

- **We will ensure that our patient population who are at high risk of the harms of overprescribing are identified and offered interventions to reduce these potential risks and harms.**

Priorities for Year 1

- With the Medicines Optimisation Team, ensuring that primary care staff have the training and support to identify patients at high risk of overprescribing, and to facilitate deprescribing. A key focus will be the use of reliever inhalers: this treatment indicates poor disease control, is associated with significantly higher morbidity/mortality and is one of the most environmentally damaging inhalers prescribed.

Overall aims and actions for the next 3 years: Medicines

Aims	Actions
To undertake stakeholder engagement	The SEL Medicines Optimisation Committee and Integrated Pharmacy Stakeholder Group to establish a working group and a line of reporting to the sustainability boards.
To embed sustainability into medicines optimisation	The SEL Medicines Optimisation Committee to help identify patients most at risk of overprescribing, polypharmacy, or over-ordering at PCN and practice level using data analysis.
To provide training and education in medicines optimisation	Provide education and training to reduce overprescribing and to make alternatives to medicines prescribing mainstream and accessible.
To support a quality improvement approach to reduce and prevent overprescribing	Support the use of a QI approach to overprescribing, with the ability to share resources and case-studies across the ICS.

South East London ICS

Overall aims and actions for the next 3 years: Medicines

Aims	Actions
To work with PCNs to enhance medicines optimisation	In line with the PCN Impact and Investment fund (IIF) and the Network Contract Directed Enhanced Service (Network DES), GP practices and PCNs to use locally determined population health and digital tools to identify patients at greatest risk from overprescribing, particularly using Additional Roles Reimbursement Scheme (ARRS) roles, such as practice and PCN pharmacists, to address these needs. In line with the Network DES, support practices and PCNs to increase the number of medicines optimisation structured medication reviews in primary care. Support Community Pharmacists to increase discharge medicines service and new medicines service interventions. PCNs to work with local community pharmacists to understand medicines waste, such as over-ordering. Develop an ICS-wide communication campaign to increase awareness that unused medications and empty inhalers need to be returned to the pharmacy for disposal. Provide pharmacies with appropriate collection methods for unused medicine.
To support the safe disposal of medications	Develop an ICS-wide communication campaign to increase awareness that unused medications and empty inhalers need to be returned to the pharmacy for disposal. Provide pharmacies with appropriate collection methods for unused medicine.

South East London ICS

Sustainable Respiratory Care

Sustainable respiratory care recognises that the lowest impact to our patients' and our environment's health will be from high-quality, person-centred respiratory care that reduces admissions, exacerbations, and supports patients to thrive within their community.

Adherence to inhaled corticosteroids in asthma is poor, inhaler technique is often suboptimal, and many patients are reliant on short-acting beta-2-agonists (SABA) and frequent courses of oral corticosteroids. In the UK, 70% of inhalers prescribed are metered dose inhalers (MDIs) which account for 4% of the entire NHS carbon footprint.

The carbon footprint of the top inhalers prescribed in SEL ICS is highlighted in Box 2. Conversely, dry powder inhalers (DPI) have a substantially lower carbon footprint, so the NHS is advocating changing, where appropriate, from MDI to DPI.

High-quality/low-carbon asthma care can be achieved simultaneously using a comprehensive approach to optimising asthma management that brings together quality improvement in diagnosis, disease control, and device choice and disposal.

South East London ICS

Box 2

Carbon footprint of the top inhalers prescribed in SEL ICS

Top six short-acting beta-2 agonist (SABA) inhalers: emissions per quarter are 2 million kgCO_2e; when extrapolated, this equates to 8,000 tonnes CO_2e per year

Top seven maintenance inhalers: emissions per quarter are 1.6 million kgCO_2e; when extrapolated, this equates to 6,500 tonnes CO_2e per year

The calculations are presented in Appendix 4.

The implementation of sustainable respiratory care in SEL ICS is an opportunity to work across organisations, together with patients and local communities. Sustainable respiratory care will also include taking action to improve air quality, reduce air pollution and have conversations with patients about the risks and mitigation of exposure to air pollution (for further information see the air quality section).

Achievements so far

- The SEL Responsible Respiratory Prescribing Group (RRPG) is a sub-group of the Integrated Medicines Optimisation Committee which works across the ICS. It provides a forum for healthcare professionals from across acute, community, and primary care to work together to develop consistent, sustainable, and cost-effective prescribing guidelines and strategies in respiratory disease for both adults and children. The group supports more sustainable options with regard to inhaler prescribing and has created a position statement on the environmental impact of inhalers. The group has agreed a work plan for 2022/23, which takes account of national drivers, the recommendations of professional bodies, and local expert advice. SEL ICS will ensure that the RRPG leads are connected within the wider ICS system to respiratory and sustainability boards and groups.

South East London ICS

Commitment

- **We will deliver high-quality and low-carbon respiratory care simultaneously using a comprehensive approach of quality improvement in diagnosis, disease control, and device choice and disposal.**

Priorities for Year 1

- Running educational events about sustainable respiratory care to support practices in meeting the IIF targets for improving inhaler prescribing and optimising asthma care.

Overall aims and actions for the next 3 years: Sustainable Respiratory Care

Aims	Actions
To actively disseminate learning, good practice, and appropriate resources across primary care in SEL ICS to employ the interventions that are needed to meet the targets for sustainable respiratory care	Identify ways in which protected time for training and education of primary care staff in sustainable respiratory care can be achieved. Deliver training to multi-professional teams, in partnership with members from each ICS Respiratory Network/Medicines Management Committee and sustainability networks. Deliver education to all primary and acute care teams at least by September 2022, to support systems to deliver to the new IIF timeline. Use the Health Foundation Sustainable QI toolkit to support quality improvement in sustainable respiratory care.
To develop tools and resources to support clinicians in the sustainable care of people with respiratory conditions in a primary care setting	Identify the range of tools available that support high-quality, low-carbon respiratory care. Depending on the resources available, review whether to develop patient-facing resources pertaining to respiratory care in collaboration with relevant patient groups/communities, taking account of cultural factors and accessibility requirements.

South East London ICS

Overall aims and actions for the next 3 years: Sustainable Respiratory Care

Aims	Actions
To build sustainable respiratory care into SEL ICS performance frameworks	A working group has been established to review existing local formulary recommendations and associated guidelines for adult asthma and COPD. Guidelines need to include stronger references to the environmental impact of treatments to help guide healthcare professionals in joint decision-making with patients. Establish a working group to review system-wide formulary recommendations and associated guidelines for asthma in children and young people. For SEL ICS to update where appropriate: referral forms, digital templates for respiratory consultations and other tools and resources used in recommending treatment options.
To increase the safe disposal of inhaler devices	For SEL ICS, to work with community pharmacists, primary and secondary care to develop a campaign to raise awareness among patients and service users of the NHS return to pharmacy scheme. For SEL ICS, to keep under review schemes that have the potential to recycle inhaler devices effectively and appropriately. A sensitive approach to this with pharmacies will be necessary, due to the extra space required for collection.
To facilitate clinical leadership in each ICS and primary care network with support from the local respiratory clinical networks and PCN Clinical Directors to help kick-start the quality improvement required to effect meaningful change	SEL ICS to facilitate the effective uptake of relevant clinical leadership and QI programmes by multi-professional teams, in partnership with PCNs and members from each ICS Respiratory Network/Medicines Management Group and sustainability networks.

Case-study 8

Improving adherence to inhaled corticosteroid and reducing over-reliance on short-acting beta-agonists (Lambeth)

Between 2016 and 2019, locally commissioned Integrated Respiratory Team and specialists supported general practice to focus on key respiratory processes to improve the quality of care for common respiratory diseases in a primary-care setting. This included a focus on Medicines Optimisation, and together with appropriate financial and quality improvement levers, Lambeth:

- Reduced the percentage of people with asthma receiving 6 or more prescriptions for SABA annually from 29% to 23% of asthma patients (21% reduction)
- Increased the percentage of asthma patients using inhaled corticosteroids regularly (11 or more prescriptions annually) from 48% to 60% (25% increase)
- Increased the percentage of patients prescribed inhalers receiving an inhaler technique check from 27% to 72% (167% increase)
- Increased the percentage of patients using spacers for their pressurised MDI inhalers from 43% to 70% (63% increase)
- Increased the percentage of adult asthma patients with a Personalised Asthma Action Plan from 56% to 93% (66% increase)

Although it is difficult to measure the environmental impact of these effects (e.g., through reduced overall inhaler prescribing and avoidance of treatment escalation), the approaches are consistent with the concept that best clinical care and practice has a positive effect on overall environmental impact.

These results were achieved while reducing prescribing costs and the percentage of patients needing high-dose inhaled corticosteroids with no impact on admission rates. Most of the impact was through 'Virtual Clinics' and upskilling healthcare professionals in primary-care settings through a collaborative and integrated approach.

South East London ICS

Supply Chain and Procurement

Expenditure within practices is split into business/professional services and goods/procurement.

Using estimates based on carbon footprinting of multiple general practices across England, in general practice in SEL, the emissions from business/professional services are 4,510 tonnes CO_2e per year and the emissions for goods/procurement are 2,255 tonnes CO_2e per year.

Reducing the carbon footprint of the supply chain and procurement will necessitate change at all levels of primary care, including the development of more sustainable models of care (see section), to reducing overdiagnosis and overprescribing, and from improving how we manage waste to developing procurement frameworks that mean we can harness our influence as anchor institutions to encourage our suppliers to become more sustainable too.

Commitment

- **We will reduce waste and embed the principles of a circular and low-waste economy into supply chain and procurement decisions.**

Priorities for Year 1

- Contributing to the development and implementation of a joint sustainable procurement policy and guidance across SEL ICS by:
  - eradicating single-use plastic in catering;
  - contributing to sharing best practice across the ICS and identifying opportunities for reuse; Working collaboratively across the system to understand the most carbon-intensive clinical instruments; and
  - develop interventions for reducing their use.

Overall aims and actions for the next 3 years: Supply Chain and Procurement

Aims	Actions
To review purchasing powers across SEL to help shape community environments and behaviours and influence local suppliers	The ICS to review the management of group purchasing, and the opportunities it provides to support practices.
To reduce waste from overdiagnosis and over-investigation in primary care	Avoid and reduce unnecessary and low-value interventions (utilise the RCGP Overdiagnosis Paper, 2018; Choosing Wisely). To implement a SusQI approach to identify low-value interventions and to embed change at a practice level. Consider digital prompts/templates to enable staff to avoid overdiagnosis and reduce over-investigation.

South East London ICS

Overall aims and actions for the next 3 years: Supply Chain and Procurement

Aims	Actions
To review ways in which single-use equipment and waste is managed across SEL ICS	Review options for reduction in single-use plastic bags to store and transport pathology samples from practice to lab (based on a successful pilot in Cornwall using refillable bottle stores to transport the samples). Consider adoption of Sharpsmart reusable sharps bins. In accordance with regional and national guidelines, work with Infection control to reassess PPE requirements including potential PPE recycling and a return to gloves off, where appropriate ("Gloves Off" campaigns). Supporting pharmacies to stop using single-use bags (plastic or paper) for medicines. Consider using existing hospital decontamination/sterilisation services for, e.g., coil packs, minor operations and vasectomy instruments, and speculums.
To review medical equipment processes	Consider piloting schemes for return of appliances and aids. (Mobilising to NHS Net Zero | British Geriatrics Society). Consider regular amnesties of medical appliances and aids with collection points, local to patients' homes to keep carbon transport costs of return to a minimum. Prioritise refurbished, repaired, and reused items over new, where appropriate, e.g., blood pressure or ECG machines.
To review waste management processes	Consider adoption of tiger bags, where possible (bags to split clinical waste into offensive and infectious waste). Improved training for staff on clinical and non-clinical waste disposal (making it easier for staff to use the right bag for the right scenario).
To improve stock-taking systems in primary care	Optimise existing stock-taking practices with the aims of ordering only what is used, ensuring equipment and other resources are used before their expiration date, and preventing over-ordering thereby reducing waste, and carbon emissions, and optimising resource use for patient benefits.

South East London ICS

Food and Nutrition

The Faculty of Public Health have outlined the way in which the food systems, environmental sustainability, and population health converge in terms of:

- Climate change
- Environmental damage, such as air pollution, water pollution, and biodiversity loss
- Antimicrobial resistance

As such, the food system can have a negative effect not only on the planet but also on population health. A public health approach is needed when addressing issues relating to food and nutrition.

At a local level in primary care, the social or wider determinants of health influence people's access to healthy food, including the affordability of healthy food relative to income, and the availability of healthy food in the local neighbourhood.

At present, there is no strong evidence to suggest that giving dietary advice in general practice improves people's nutrition or reduces excess weight. One approach to improving people's access to healthy food and better nutrition is an assets-based approach (see Box 3), in which the assets and strengths present in the local community are identified and built upon to improve health outcomes.

Box 3

An asset-based practitioner's approach to health and care as outlined by The Health Foundation

An asset-based approach works through relationship-building, not only between service providers and the community but also among different parts of the community

"Asset-based practitioners have a different perspective to most other health and care professionals. Fundamentally, they ask the question 'what makes us healthy?' rather than 'what makes us ill?' The aim of asset-based practice is to promote and strengthen the factors that support good health and wellbeing, protect against poor health and foster communities and networks that sustain health. Practitioners' vision is to improve people's life chances by focusing on what improves their health and wellbeing and reduces preventable health inequities."

Case-study 9

Lambeth GP Food Co-op

Lambeth GP Food Co-op is community-led, involving patients, doctors, and residents. The co-op works with GP surgeries and NHS Trusts (King's College Hospital and Guy's and St Thomas') to provide not only a space to build gardens, but also a reason for people to socialise, learn, and grow food together to improve their health and wellbeing. The aim is *'Improving the lives of local people living with multiple long-term conditions and the sustainability of the health and social care system'*. The food grown is distributed and sold to NHS staff as well as to NHS hospital caterers.

South East London ICS

Overall aims and actions for the next 3 years: Food and Nutrition

Aims	Actions
To work with Public Health Teams across the six boroughs, to identify access to affordable healthy food in SEL, especially for people in the most-deprived areas and people with poor nutrition	Map food 'deserts' and sources of unhealthy food in SEL ICS, particularly in relation to areas of deprivation. Identify food and nutrition-based assets across SEL ICS, including relevant organisations already using an assets-based approach. Identify general practices in SEL ICS willing to participate in an assets-based approach to food and nutrition and act as pilots for the approach. Include the food retail sector in the supply and display of healthy, affordable food.
To work with the Public Health Teams in the six boroughs, to develop messaging about diet and nutrition that can be used in primary care across SEL ICS	Identify communities or groups in the population at risk of poor diet and nutrition. Co-design messages about food and nutrition with the communities and groups at risk of poor diet and nutrition. Develop resources that will enable primary care staff to deliver food and nutrition messaging effectively.
To work with SEL ICS to develop and apply social value principles in the procurement of food supplies	Contribute to the development of social value criteria that can be applied to procurement of goods and services in general practice, including food supplies. Explore the potential to procure food from relevant VCSE suppliers.
To reduce the carbon emissions associated with in-house catering in primary care	Offer at least one plant-based option for each mealtime service where in-house catering is used. Wherever possible, procure food from suppliers within the local foodshed (50-mile radius). Reduce edible and non-edible food waste from in-house catering.

South East London ICS

Adaptation

"Mitigation is to avoid the unmanageable; adaptation is to manage the unavoidable."

- John Holdren

This plan aims to develop a strategy over the next 3 years, during which time South East London must adapt to the changing climate and the impact of extreme weather events on staff, and patient populations. Climate risks should be added to the SEL ICS risk register accounting for probability over 3–10-year time-scales and potential impact of events.

Climate shocks such as rising temperatures and heat waves affect people (staff and patients), places (surgeries and communities), and supply chains. Adverse weather events are increasingly frequent. Low-lying geography and proximity to rivers and storm drains means that parts of SEL are at risk of flooding from storm surges. Mitigation needs to be identified for direct risk, such as the flooding of premises, difficult road access, or the loss of electricity and water supply. We have also seen severe disruption to resource and supply chains, including medicines.

People who are migrants comprise an important part of the population of South East London. With rising temperatures, we are more likely to see political unrest and climate migration. More widely, there are changing and emerging infections, with changes in disease transmission (with more mosquito and tick-borne, and water- and food-borne diseases). Lessons learned from the COVID-19 pandemic can be used to inform future preparedness.

For effective adaptation, it is important to manage the following risks, and to review not only how staff can be supported but also how health-service delivery can be maintained during:

- Heatwaves and heat stress
- Flooding
- Supply disruption
- Increasing levels of migration
- Emerging infections
- Increasing fuel poverty and food insecurity
- Climate anxiety and other mental health impacts from climate-related shocks

South East London ICS

Achievements so far

- SEL CCG/ICB has worked with the Estates Programme to embed sustainability into the next phase of the estates survey.

Commitment

- **We will contribute to a system-wide approach to mitigating the risks of climate change and ensure climate change does not impact SEL ICS's ability to deliver core services and manage population health.**

Priorities for Year 1

- Reviewing, within the PCN estates survey, the adaptation plans for heat and extreme weather events, with a focus on heat adaptation plans and the immediate improvements needed for healthcare premises in general practice.

Overall aims and actions for the next 3 years: Adaptation

Aims	Actions
To ensure PCN/ practice resilience and business continuity plans account for climate risks	Review the clinical environment for temperature control, exploring the potential for low-carbon solutions, such as ventilation, shades, awnings, louvres and planting over walls and windows. Ensure that relevant staff (practice or building managers) are aware of the flood risk to individual premises and have business contingency plans in place.

South East London ICS

Overall aims and actions for the next 3 years: Adaptation

Aims	Actions
To review the capacity in primary care for adaptation to climate shocks related to heat waves and heat stress	Undertake the adaptation of premises to ensure a comfortable working environment for staff and patients including heating and cooling (e.g., temperature reduction during high temperature days).
To ensure both existing and new build are fitted to withstand the impacts associated with climate-related shocks	Maintain and operate the existing estate to ensure a reduction in carbon emissions, and to future-proof it against the impacts of climate change. Design new builds such that its construction and operation have low or zero carbon emissions, and buildings are future proofed against the impacts of climate change.
To consider adaptation needs for primary care services and for local patients and communities in SEL ICS	Develop practice-based climate change adaptation plans in partnership with SEL ICS. Ensure GPs and other primary care staff are aware of the health warning system for patients at greatest risk from extreme heat and cold, and signpost patients to the health warning system to enable them to manage their exposure.
To reassess the review of fuel poverty in light of recent developments in the global energy market	Understand the prevalence of fuel poverty in patient populations, including people living in deprived areas. Recognise patients at risk of or in fuel poverty, and signpost them to fuel poverty referral programmes (see Case-study 10).
To increase awareness and understanding among primary care professionals of the mental health impacts of climate change in general but also of specific climate shocks	Increase clinician awareness and recognition of crisis and climate anxiety, especially among young people, as a potential driver of mental ill health.

Case-study 10

SELCE

About 18% of households in Greenwich and Lewisham are currently in fuel poverty, which is above the average for London. South East London Community Energy (SELCE) is a cooperative that provides training for local households and businesses to become more energy efficient, and fundraises for solar power generation at a variety of community buildings solar power generation at a variety of community buildings.

Case-study 11

Flood risk mitigation in Lambeth through de-paving

In London, the total area of paved front gardens is estimated to be 32 km², an area 22 times the size of Hyde Park. This presents a significant flood risk. Lambeth Council offered support to local residents to reduce impermeable paving and replace it with flood-permeable materials and plants, thereby increasing green space and reducing flood risk. In their capacity as mini anchor institutions, practices could lead on de-paving projects on their own premises and increasing green space with the opportunity for providing meaningful community action.

South East London ICS

Health Inequalities in South East London

The COVID-19 pandemic has shone a spotlight on health inequalities. The drivers for the climate crisis are the same as many of the drivers for health inequality and require a combination of approached from top-down (i.e. health policy and resource allocation) to bottom-up (i.e. individual and community empowerment), including addressing the social determinants of health, that is, the conditions in which people are born, grow, live, work and age.

Delivering a net-zero NHS has the potential to secure considerable benefits for the population, and particularly for vulnerable and marginalised groups, with the co-benefit of addressing existing health inequalities

South East London ICS

For people in South East London, income deprivation has been directly linked to indicators of poor health such as unplanned hospital admissions, and childhood obesity in black and ethnic minority populations.

To combat these and other health inequalities, the Core20PLUS5 initiative will need to be considered (see Box 4). The report states 'the NHS has not succeeded in its mission to provide equal care' and recommends very careful consideration of ethnicity and deprivation, data and ethnicity coding, accountability frameworks and representative leadership, performance and health inequalities.

South East London has an estimated 1.9 million residents and is an area of mixed deprivation. It includes the more deprived boroughs of Lewisham (7th most deprived out of 33), Southwark (9th), Greenwich (11th), Lambeth (12th) and the less deprived boroughs of Bromley (22nd) and Bexley (23rd). Any programme to reduce health inequalities will require a package of bespoke measures for each area matching resources with deprivation levels. South East London ICS can narrow health inequalities by utilising the Core20plus initiative (see Box 4). The benefits will only be fully realised through public participation, involvement and engagement with stakeholders and communities as this work goes forward.

Priority for Year 1

- Reducing health inequalities to be embedded as an action at every level of work under review by SEL ICS when implementing the green plan.

South East London ICS

Overall aims and actions for the next 3 years: Health Inequalities

Aims	Actions
To introduce and mainstream climate change considerations into routine work on health inequalities across SEL ICS	Integrate climate crisis work into existing health inequalities work, e.g., the work plans of PCNs under the Network DES.
To improve equality of access for changes suggested in the green plan	Use local languages to convey important health messaging and understanding the cultural needs of the communities affected. Ensure culturally competent services and initiatives are in place to address other areas of equality of access to green plan initiatives. For instance, this could be achieved through having a local bureau of healthcare professionals who speak the languages of the catchment area as champions of public health messaging. NHS improvement did this in London during the vaccination roll-out, but this approach could be expanded to encompass other topics/health needs. Translate social prescribing resources into local languages. Take learning from individual borough projects and implement that learning across SEL.

Box 4

'Core20PLUS5' – NHS England and NHS Improvement approach to reducing health inequalities

Core20

The Core20 is the most-deprived 20% of the national population as identified by the Index of Multiple Deprivation (IMD). The IMD has seven domains with indicators covering for a wide range of social determinants of health.

PLUS

There are two main population groups within PLUS.

- ICS-determined population groups with poorer than average health access, experience and/or outcomes, but not captured in the 'Core20' alone. This should be based on ICS population health data
- Inclusion health groups including ethnic minority communities, coastal communities, people with multi-morbidities, protected characteristic groups, people experiencing homelessness, drug and alcohol dependence, vulnerable migrants, Gypsy, Roma and Traveller communities, sex workers, people in contact with the justice system, victims of modern slavery and other socially excluded groups

5

Five clinical areas of focus with respect to inequalities: maternity, severe mental illness, chronic respiratory disease, early cancer diagnosis, and hypertension case-finding.

Case-study 12

The demography of Southwark

In Southwark, 2 in 5 (20%) people live in communities ranked among the 20% most-deprived areas nationally. In contrast, only 2 in 100 (2%) people live in communities among the 20% least-deprived areas nationally.

About 25% of children and young people aged under 16 years in Southwark live in poverty, compared with just over 18% of children and young people in London. Just over 50% of Southwark's residents are White, 25% are Black and 25% are Asian, mixed or other ethnicities. The population aged under 20 years is much more diverse than that of other age-groups, with a similar proportion of young people from White and Black ethnic backgrounds.

In addition, there are disparities in preventative measures such as childhood immunisation uptake which in Southwark is 87.8% (well below the 95% target of the World Health Organization).

South East London ICS

Biodiversity, and a Nature-Positive NHS

Good health and wellbeing are dependent on nature and biodiversity. The nature emergency is inexorably linked to the climate emergency. Actions taken to preserve, conserve, and enhance nature contribute to the mitigation and adaptation of the potential impacts of climate change, and can support health and wellbeing in our communities.

Although the healthcare carbon footprint has been well quantified, evaluating healthcare's nature and biodiversity footprint is more complex. However, healthcare systems have a responsibility to address their nature and biodiversity impacts for several reasons.

1) Healthcare's impact on nature and biodiversity is considerable, including direct effects (e.g., chemical pollution from pharmaceutical residue in wastewater,) and indirect effects (e.g., the impact of procurement methods globally for NHS goods such as through shipping's impact on foreign species transfer or whale strikes).

2) SEL ICS has an opportunity to improve accessibility to nature for everyone in its catchment population. Healthcare is well placed to identify people who may benefit the most from time in nature and can facilitate their access to nature-positive environments. This could range from signposting to interventions that increase positive exposure (e.g., through local health maps such as CSH Green health routes) or from more specific nature-based social prescribing interventions (e.g., interventions for specific groups such as volunteering opportunities with local gardening or conservation groups, see the case-studies below)

South East London ICS

3) The NHS Estate and Infrastructure can support greening and biodiversity net-gain. The SEL primary care estate is set within diverse urban communities, with the potential to contribute to local nature action plans, including built environment habitat action plans. This could involve contributing to nature corridors, and tree planting and greening, supporting specific species (e.g., bee-friendly GP), and increasing biodiversity.

In the UK, 30% of land is to be protected and designated for nature by 2030, with the 2023 Environment Bill stating that all new developments, including those on NHS and public land must generate 10% biodiversity net gain.

Achievements so far

- South East London has a well-developed nature recovery strategy, and boroughs such as Lambeth, Southwark and Lewisham have published nature action plans to support this. There are also several pan-London initiatives such as the London National Park City, and SEL itself has several successful community projects, some of which are described in Case-studies 9, 12 and 13.

Commitment

- **We will contribute to increasing biodiversity in South East London, and creating a nature-positive environment for our patients, service users, and local communities.**

Priorities for Year 1

- Exploring the nature-based prescribing opportunities in SEL in conjunction with the VCSE sector and other partners in the ICS

South East London ICS

Overall aims and actions for the next 3 years: Biodiversity, and a Nature-Positive NHS

Aims	Actions
To reduce pharmaceutical molecular pollution of the environment and particularly air and water sources	Address pharmaceutical waste by addressing overprescribing, and by increasing uptake of the return to pharmacy scheme for disposal of unused medications. Consider developing a SEL wide framework for disposing of expired or returned pharmaceuticals and waste by-products such as packaging. Reduction of Pharmaceutical pollutants impacting on the environment.
To consider the development of an ICS nature and biodiversity steering group	Explore the development of an ICS biodiversity and nature working group, to map nature-based prescribing opportunities.
To explore biodiversity net gain plans in SEL for NHS Estate	Explore biodiversity baseline assessments and net gain plans in a range of settings on the SEL NHS estate, especially in communities who have the poorest level of access to nature.
To follow recognised standards for new NHS developments that will ensure a nature-positive approach	For new NHS developments, align with BREEAM standards, and ensure that developers take full account of borough biodiversity and nature action plans.

Case-study 13

Brockwell Park Community Greenhouses (BPCG)

Brockwell Park Community Greenhouses (BPCG) are situated in the heart of Brockwell Park. The charity provides general volunteering opportunities. BPCG aims to provide an inclusive green space for local food production, ecological education, and support for community wellbeing and belonging. BPCG also runs weekly therapeutic gardening sessions.

Case-study 14

The Paper Garden Canada Water

The Paper Garden is a collaborative seedbed nurturing creativity and community. Groups of families from the NHS Mental health Intervention Scheme have attended workshops in the Paper Garden since summer 2020. This is the beginning of a partnership that will enable SEL to offer growing spaces to people in need of access to nutritious and fresh food.

"The children especially have benefited from going back to the same place a couple of times to start to feel familiar with the space and from being given the opportunity to explore and play more freely. We were able to give our families this experience as it is not something they would have been able to do at home. The mothers also said that they liked collecting the salad leaves and learning about the different plants, some then reflected about what vegetables grow in the country where they grew up and liked the experience of eating something they might not usually have /you can't get in a supermarket and being able to take some things home to share. This activity was also nice because it gave the mothers an opportunity to do something for themselves which was a bit separate from the children. We appreciated the relaxed approach from Emma and Martin, recognising that our families often have quite chaotic lives, for example, understanding that sometimes they will be running late/get lost/won't confirm to say they are coming etc."

If we achieve our vision and these aims and actions over the next three years, then primary care in South East London will have made a substantial contribution to SEL ICS becoming a leading ICS in sustainability and carbon reduction, as well as knowing we belong to a group of organisations and their staff committed to improving the health and wellbeing of, and reducing inequalities in, South East London's population for whom we are proud to deliver health and care services.

Abbreviations

AARS	Additional Roles Reimbursement Scheme
BPCG	Brockwell Park Community Greenhouses
CCL	Community Connections Lewisham
COPD	Chronic obstructive pulmonary disease
CQC	Care Quality Commission
DPI	Dry powder inhalers
ICS	Integrated care system
IIF	Impact and Investment Fund
IMD	Index of Multiple Deprivation
IMOC	Integrated Medicines Optimisation Committee
LCP	Local Care Partnership
LMC	Local Medical Committee
LSUP	Lewisham Speaking Up
MDI	Metered dose inhalers
NL	North Lewisham
PCN	Primary care network
QI	Quality improvement
RRPG	Responsible Respiratory Prescribing Group
SABA	Short-acting beta-2-agonists
SEL	South East London
SELCE	South East London Community Energy
SMS	Short message service (text)
SusQI	Sustainable quality improvement
VCSE	Voluntary, Community and Social Enterprise

Appendix 1: Methodology of Carbon Footprinting

Overall

The carbon footprinting of general practice in SEL ICS was a desk-based assessment. No primary data was collected, and the calculations are based on existing clinical and non-clinical data from the NHS, NHSBSA, Care Quality Commission (CQC), the National Travel Survey, and SEL ICS.

Clinical Emissions

The total pharmaceutical spend by SEL is £220,312,928. Approximately 10% of this spend is on respiratory items, which is £22,031,293. Therefore, the total non-respiratory spend is £220,312,928 - £22,031,293 = £198,281,635.

Using the pharmaceutical conversion factor from Greener NHS of 0.1558 $kgCO_2e$/£ spent, the non-respiratory pharmaceutical emissions are 30.9 million $kgCO_2e$ or 30,892 tonnes CO_2e per year.

Non-Clinical Emissions

Patient Travel

The figure for the number of face-to-face appointments attended from the December 2021 NHS General Practice Appointment data[1] was used to establish how many patients were travelling to general practices across a month. A National Travel Survey table[2] was then used to calculate the number of miles travelled by patients to attend face-to-face appointments based on how far people travel for personal business within London (3.46 miles per one-way trip. The personal business category includes trips to the doctors. Another National Travel Survey table[3] provided data on the mode of transport that people within England (including London) use to travel for personal business. This data was then used to calculate the total miles travelled by carbonised transport by patients to attend face-to-face appointments. Using government conversion factors of carbonised transport[4], the carbon footprint of travel by patients for face-to-face appointments was calculated for December 2021 in SEL ICS. This figure was 504 tonnes CO_2e and was multiplied by 12 to represent the annual CO_2e footprint, which is 6,050 tonnes CO_2e. Owing to the fluctuations in face-to-face appointments during 2021, the most recent General Practice Appointment data (December 2021) was used to calculate the patient travel footprint.

Appendix 1

Staff Travel

For 58% of the general practice premises in SEL ICS, there was CQC data for the number of staff employed at their practice. This was used to calculate the total number of staff working within general practice in SEL ICS. This data was then multiplied by a conversion factor per member of staff to calculate emissions per year from staff travel. This conversion factor is based on carbon footprint calculations from travel surveys carried out by SEE Sustainability of primary health care staff across England.

Business Services and Procurement

The business services footprint and procurement footprint were calculated using conversion factors of $kgCO_2e$ per patient based on carbon footprinting of multiple general practices across England by SEE Sustainability.

Energy

The data for energy use within general practice in South East London was collected from Energy Performance Certificates (EPCs) and Display Energy Certificates (DECs) from the UK Government website. These certificates provide information on building floor space, kWh/m^2/year for electricity and gas usage, $kgCO_2e/m^2$/year, and $kgCO_2e$/year.

Where possible, $kgCO_2e$/year per practice was used to calculate the footprints of the practices with EPC or DEC data. If this data was unavailable, data in the form of $kgCO_2e/m^2$/year was multiplied by the m^2 of the practice to give $kgCO_2e$/year for the practice.

Of the 241 practices (including branch practices) in SEL ICS, 103 practices (43%) either had an EPC, a DEC, or both and it was possible to calculate the $kgCO_2e$/year. The total footprint of these practices was extrapolated to estimate an energy carbon footprint for the whole of general practice in the ICS.

[1] *https://digital.nhs.uk/data-and-information/publications/statistical/appointments-in-general-practice#latest-statistics*

[2] *NTS9912: https://www.gov.uk/government/statistical-data-sets/nts04-purpose-of-trips*

[3] *NTS0409: https://www.gov.uk/government/statistical-data-sets/nts04-purpose-of-trips*

[4] *https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting*

Appendix 1

Limitations and Assumptions of Carbon Footprinting Data

Clinical Emissions

The non-respiratory clinical emissions are based upon expenditure data, a method that can be associated with errors; however, this is the best method using the data currently available.

Non-Clinical Emissions

Patient Travel

The annual carbon footprint of patient travel is based on the number of face-to-face appointments in December 2021, which is the most recent data available and the most representative going into 2022 bearing in mind the fluctuations in face-to-face appointments over the past year due to the COVID-19 restrictions that were in place.

The data regarding distance travelled by patients and the mode of transport used to attend appointments is the most accurate data available from the National Travel Survey. In London, the distance travelled by individuals for personal business is 3.46 miles (one-way). This statistic includes trips made other than to a doctor's surgery that fall within the personal business category, and therefore could be an over- or underestimate of the average trip length to a doctor's surgery by patients. It is most likely to be an overestimate, as the ratio of the number of practices in the SEL ICS to the area covered would suggest that patients are likely to live less than 3.46 miles from a practice.

Emissions from travel will be dependent on mode of travel and these vary depending on seasons and weather. Therefore, the travel emissions are not equally distributed throughout the year.

Staff Travel

The carbon footprint of staff travel may be an overestimate because the calculations are based on the results of travel surveys of primary care staff outside London. The overestimate is likely to be due to the higher usage rate of public transport in London compared with rates outside London which will not be accounted for within the travel surveys.

Additionally, some of the data from the CQC is a few years out of date and so the true number of staff within general practice in the ICS may vary from the one calculated using CQC data.

Emissions from travel will be dependent on mode of travel and these vary depending on seasons and weather. Therefore, the travel emissions are not equally distributed throughout the year.

Appendix 1

Business Services and Procurement

The carbon footprint of business services and procurement is based upon conversion factors of kg CO_2e per patient based on carbon footprinting of general practices across England. Due to there being no primary data collection during this project, this is the most accurate footprint that could be calculated. This means that expenditure data on business services and procurement for general practice within the ICS has not been analysed and it is assumed that it is in line with the expenditure of the practices that have been footprinted by SEE Sustainability.

Energy

The SEL ICS provided information regarding the names and addresses of the practices that are within the ICS. Further data collection via CQC and practice websites provided the information about the branch surgeries of the practices. It is assumed that the 241 practices (including branch surgeries) that make up the final dataset includes all practices within the ICS. It does not take into consideration if branch surgeries have closed down or are no longer in use, so this may produce an overestimate of energy emissions.

The kWh/m^2/year data used for the percentile graph is based on a much smaller sample size of the practices due to the availability of data from EPCs and DECs. This may produce a less representative percentile graph of the practices within SEL ICS but it uses the most accurate data available. To improve this, data would need to be collected from individual practice energy bills or smart meters.

The EPC and DEC information is in the form of CO_2 and so does not consider all greenhouse gas emissions which are in the form of CO_2e. This may produce an underestimate of the emissions, although it will be close to the true footprint as the levels of greenhouse gases emitted, excluding CO_2, from energy per kWh tend to be very low compared to CO_2.

Additionally, EPCs and DECs are calculated by different people and companies which will have varying methods of calculation and varying conversion factors. This may result in the energy footprint here differing from energy emissions calculated from energy bills or smart meters from each practice.

Other Limitations

This plan contains only the carbon footprint of general practice. Within primary care, the carbon footprints for opticians, dentists, and pharmacies have not been calculated. Therefore, the footprint of general practice in the ICS does not represent the whole of primary care within the ICS and so the footprint of primary care within SEL ICS is expected to be higher than 76,171 tonnes CO_2e per year.

South East London ICS

Appendix 2: Population Health Management

Population health management (PHM) is a mechanism that harnesses data driven approaches alongside stakeholder engagement to design new models of proactive care and improve health and wellbeing, which makes best use of collective resources.

As only 20% of a person's health outcomes can be attributed to the level of access to good-quality healthcare, the focus of a PHM approach is improving health and wellbeing outcomes by considering the wider determinants of health as well as clinical/biomedical concerns.

Appendix 3: Place-Based Resources

Type	Resource
Place-based active travel resources	Lewisham Family Cycling Library can lend electrically-assisted cargo-trike to transport children and families. Family Cycling Library – Lewisham Cyclists London Cycling Campaign run an NHS staff specific buddying system: https://lcc.org.uk/groups/cycle-buddies-for-nhs-staff/ Try before you bike encourages trying cycling out for free with all the equipment and opportunity to work with an instructor, it can be referred to via social prescribing. Try Before You Bike | PeddleMyWheels TFL 'cycling with hospital staff' project encourages hospital workers to cycle into work and improve confidence of cyclists. https://wcgl.london/home/project_view/cycling-with-hospital-staff-1 Pedal me is a pedal powered passenger cargo service. https://pedalme.co.uk/ At Wheels for Wellbeing at Herne Hill Velodrome people can attend taster sessions for using modified bikes for those with different physical abilities, such as trikes, hand powered bikes and bikes for more than one rider. https://wheelsforwellbeing.org.uk/ Londoners can hire accessible bikes from Wheels4me. https://cyclingforall.org/wheels4me-london/ TFL have a number of schemes including the green chain walk https://tfl.gov.uk/modes/walking/green-chain-walk
Place-based social prescribing (nature and food)	Good food Lewisham has lots of information and is a point of contact for anyone interested in food - whether an individual, business, school organisation or community group. https://www.goodfoodlewisham.org/home Incredible Edible has local groups in SEL and a huge amount of resources. Incredible Edible Lambeth – Incredible Edible The London Food Strategy | London City Hall includes a section on urban farming and growing. Art by Post, a unique scheme which aims to reach people who are isolated and unable to access the internet by delivering free booklets of creative activities through the letterbox. Southbank Centre - Art by Post | National Academy for Social Prescribing (socialprescribingacademy.org.uk)

Appendix 4: Calculating carbon emissions from inhalers

Emissions from inhalers can be calculated by combining the volume of prescriptions for each inhaler with emission data per inhaler. Emissions per inhaler are based on volume of propellant gas and emissions factor of the propellant gas.

SABA prescribing: Top 6 for quarter ending November 2021. Data from openprescribing.net

Type	Total	Emissions/ inhaler ($kgCO_2e$)	Total emissions ($kgCO_2e$)
Salbutamol 100-micrograms/ dose inhaler CFC free	130,444	9.87	1,287,482
Ventolin 100-micrograms/ dose Evohaler	23,768	24.13	573,522
Salbutamol 100-micrograms/ dose breath actuated inhaler CFC free	6,640	9.87	65,537
Salamol 100-micrograms/ dose inhaler CFC free	3,784	9.87	37,348
Salbutamol 100-micrograms/ dose inhaler CFC free	2,554	9.87	25,208
Easyhaler Salbutamol sulfate 100-micrograms/ dose dry powder inhaler	1,605	0	0

Appendix 4

For the top 6 SABA inhalers, emissions per quarter are 1.989 million kgCO2e or 7.96 million kgCO2e per year (7,956 tonnes CO2e).

Maintenance inhalers prescribing: For quarter ending November 2021. Data from openprescribing.net

Type	Total	Emissions ($kgCO_2e$/ inhaler)	Total emissions ($kgCO_2e$)
Clenil Modulite 100-micrograms/ dose inhaler	30,948	20.36	630,101
Fostair 100-micrograms/ dose /6-micrograms/ dose inhaler	21,081	19.63	413,820
Generic Trimbow 87-micrograms/dose / 5-micrograms/dose / 9-micrograms/dose inhaler	10,338	12.29	127,054
Fostair 200-micrograms/ dose / 6-micrograms/dose inhaler	7,709	19.63	151,327
Clenil Modulite 50-micrograms/dose inhaler	5,775	20.36	117,579
Clenil Modulite 200-micrograms/ dose inhaler	5,584	20.36	113,690
Qvar 100 inhaler	3,331	20.36	67,819

Appendix 4

For the top 7 maintenance inhalers, emissions per quarter are 1.6 million kgCO_2e. This equates to nearly 6.5 million kgCO_2e (or 6,500 tonnes) per year.

Clinical emissions based on pharmaceutical spend

Total spend (NHSBSA 2020/21) £220,312,928

Approximately 10% on respiratory items (£22,000,000)

Total non-respiratory spend - 220 million - 22 million = £198 million

Pharmaceutical conversion factor 0.1558

Non-respiratory emissions = 198 million *0.1558 = 30.8 million kgCO_2e or 30,848 tonnes CO_2e

Total clinical emissions

Type	Tonnes CO_2e	
SABA	7,956	17.6%
Maintenance	6,500	14.3%
Non-respiratory spend	30,848	
Total	45,304 tonnes CO_2e	

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South East London ICS

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