REPORT TO: East Lothian Integration Joint Board

MEETING DATE: 27 June 2024

BY: Chief Officer

SUBJECT: A Strengthened Approach to Prevention across the Lothian Health and Care System

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1 PURPOSE

1.1 The purpose of this report is to set out a strengthened approach to prevention across the Lothian health and care system and recommend that the East Lothian Integration Joint Board supports the recommendations set out in section 7 of Appendix 1.

2 RECOMMENDATIONS

2.1 The IJB is asked to:

i. Note the content of the report.

ii. Endorse the recommendations set out in section 7 of Appendix 1.

3 BACKGROUND

3.1 Prevention is one of the most cost-effective interventions the NHS and wider health and care system can make in relation to improving population health and reducing inequalities. Maintaining a focus on primary, secondary and tertiary prevention is critical in delivering long-term sustainability and reducing the future burden on the health and care system.

3.2 Delivering against our ambitions to improve population health and narrow inequalities in the current financial environment is challenging. However, it will be important to protect investment in prevention (where there is a demonstrable impact and return on investment in relation to population health outcomes) to minimise the risks associated with short-term financial decisions in terms of population health and inequalities. When making decisions on cost savings, it will be important to consider potential savings in the context of services and treatment that reduce the

overall disease burden and look at the long-term gains that could be achieved by protecting investment in prevention activity.

3.3 Cardiovascular diseases, type-2 diabetes, cancers, neurological conditions, falls injuries, common infectious disease and chronic respiratory conditions are likely to contribute the most significant burden on population health. Data also show a high burden from mental health in the working age population. Drug use disorders are a leading cause of ill health in younger cohorts (15-44 years). The data presented in the accompanying paper can be used to prioritise prevention activity for the health and care system, in a bid to reduce the future burden on population health and healthcare services.

3.4 If health outcomes are to improve in Lothian, there needs to be a strong focus on and investment in primary prevention; actions that improve the conditions in which people work, live and grow, delivered at both a whole population level and targeted at groups at highest risk. To embed prevention, the report prioritises prevention activity in three main areas:

- Social determinants of health
- Maternal, children and young people's health
- Tackling modifiable risk factors and the future burden of disease

3.5 It will be important for the Lothian health and care system to deliver prevention activity that shows impact in the short to medium term, whilst continuing to deliver prevention activity which will require a longer term commitment. An implementation plan and measurement framework to assess the impact of prevention activity will be required.

4 ENGAGEMENT

4.1 Senior management teams across the health and care system have been, and continue to be, consulted on the strategic approach to prevention.

4.2 This report does not propose specific changes to healthcare services and therefore no public consultation was required in its preparation. Any future service changes, made because of recommendations within this report, will be required to adhere to the duty to encourage public involvement.

5 POLICY IMPLICATIONS

5.1 This report relates to the IJB Strategic Plan and specifically, the objective to focus on prevention and early intervention.

6 INTEGRATED IMPACT ASSESSMENT

6.1 Data and evidence (including that on health inequalities) were used to inform the approach and recommendations in the report. A full impact assessment will be carried out to inform the development of this work and a high-level prevention action plan. The impact assessment workshop will include a representative from the East Lothian Health and Social Care Partnership.

7 DIRECTIONS

7.1 No additional directions required.

8 RESOURCE IMPLICATIONS

8.1 Financial – There are no financial implications which result specifically from this report; however, report recommendations may have implications for future allocation and investment of resources.

8.2 Personnel – There are no immediate staffing implications resulting specifically from this report.

8.3 Other – None

9 BACKGROUND PAPERS

9.1 None

Appendices:

Appendix 1: A strengthened approach to prevention across the Lothian health and care system

Appendix 2: Supplementary data

Appendix 3: Prevention actions

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Appendix 1

A strengthened approach to prevention across the Lothian health and care system

1. Introduction

The purpose of this paper is to set out a strengthened approach to prevention across the Lothian health and care system. Prevention is one of the most cost-effective interventions the NHS and wider health and care system can make in relation to improving population health and reducing inequalities. Maintaining a focus on primary, secondary and tertiary prevention is critical in delivering long-term sustainability and reducing the future burden on the health and care system.

Delivering against our ambitions to improve population health and narrow inequalities in the current financial environment is challenging. However, it will be important to protect investment in prevention (where there is a demonstrable impact and return on investment in relation to population health outcomes) to minimise the risks associated with short-term financial decisions in terms of population health and inequalities.

This paper aims to:

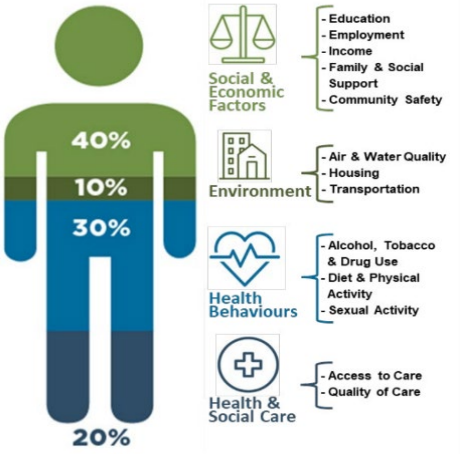
- Describe the burden of disease on population outcomes and healthcare services.
- Describe why and how the Lothian health and care system should continue to prioritise primary prevention and its wider role in addressing inequalities as an Anchor Institution and community planning partner.
- Identify an indicative set of interventions that we should continue to prioritise during this period of financial constraint.

2. Background

Life expectancy is falling, with a growing difference in life expectancy between the most and least deprived groups. Additionally, people are spending more of their life in ill health. Population projections estimate that the population served by NHS Lothian will grow by 10.2% between 2018 and 2033 from 898,000 to 989,285 residents[i]. Combined with an ageing population[ii], multimorbidity[iii], unmet healthcare needs exacerbated by COVID-19[iv], and staffing pressures[v], there is concern that demand on health and social care services will continue to rise and become increasingly unsustainable.

Our health is determined by a complex combination of social and economic factors. Where we live, our work conditions, our housing and education are fundamental building blocks in influencing our health and wellbeing. As Figure 1 below illustrates, healthcare is important, but other factors have a significant impact on health. This means we need to take action as the health and care system to support improvement in wellbeing across the building blocks of health and not focus on healthcare in isolation.

Figure 1. Relative contribution to health from modifiable factors



When making decisions on cost savings, it will be important to consider potential savings in the context of services and treatment that reduce the overall disease burden and look at the long-term gains that could be achieved by protecting investment in prevention activity.

There are different types of prevention.

- Primary prevention stops the problem occurring in the first place and is cost effective, with a median return on investment (ROI) of more than 14:1. It can be 3-4 times more cost-effective than investing in treatment.
- Secondary prevention is intervening early, when the problem starts to emerge, to resolve it.
- Tertiary prevention is making sure an ongoing problem is well managed to avoid crises and reduce its harmful consequences.

There is a growing body of economic evidence that supports the case for investing in public health interventions and prevention. For every £1 invested in secondary and tertiary prevention, the median ROI was £5. For primary prevention interventions the ROI for every £1 invested was £34 for health protection (for example vaccines and immunisation) and £46 for legislative interventions (for example the ban on smoking in public places).[vi]

Audit Scotland highlighted the importance of investing in measures that address the causes of ill-health to reduce long-term demand on the NHS. Investment in primary prevention was identified as giving the best opportunity to make the biggest difference to population health and future demand for services.[vii] A recent statement from the Royal College of Physicians reported that more than half of UK doctors had seen more patients with ill health over the last three months due to social and economic factors – living in mouldy damp homes, employment, lack of access to healthy food, poor air quality. These factors are significantly contributing to the workload of physicians.[viii]

3. Burden of disease

More than a quarter of all deaths in Scotland are avoidable (i.e., preventable or treatable). As a whole, Scotland's population is expected to fall by 2043, but the burden of disease is expected to increase by 21% (note, the population of Lothian is not expected to reduce as per national predictions due to net migration). The Scottish Burden of Disease Study forecasts the overall burden to be largest for cardiovascular diseases, cancers, and neurological diseases, accounting for 68% of the total increase in forecasted disease burden.

These estimates only account for projected demographic changes and do not factor in changes in disease prevalence and mortality that could occur due to changing risk factor profiles, reduced access to services, or advances in prevention and treatment.

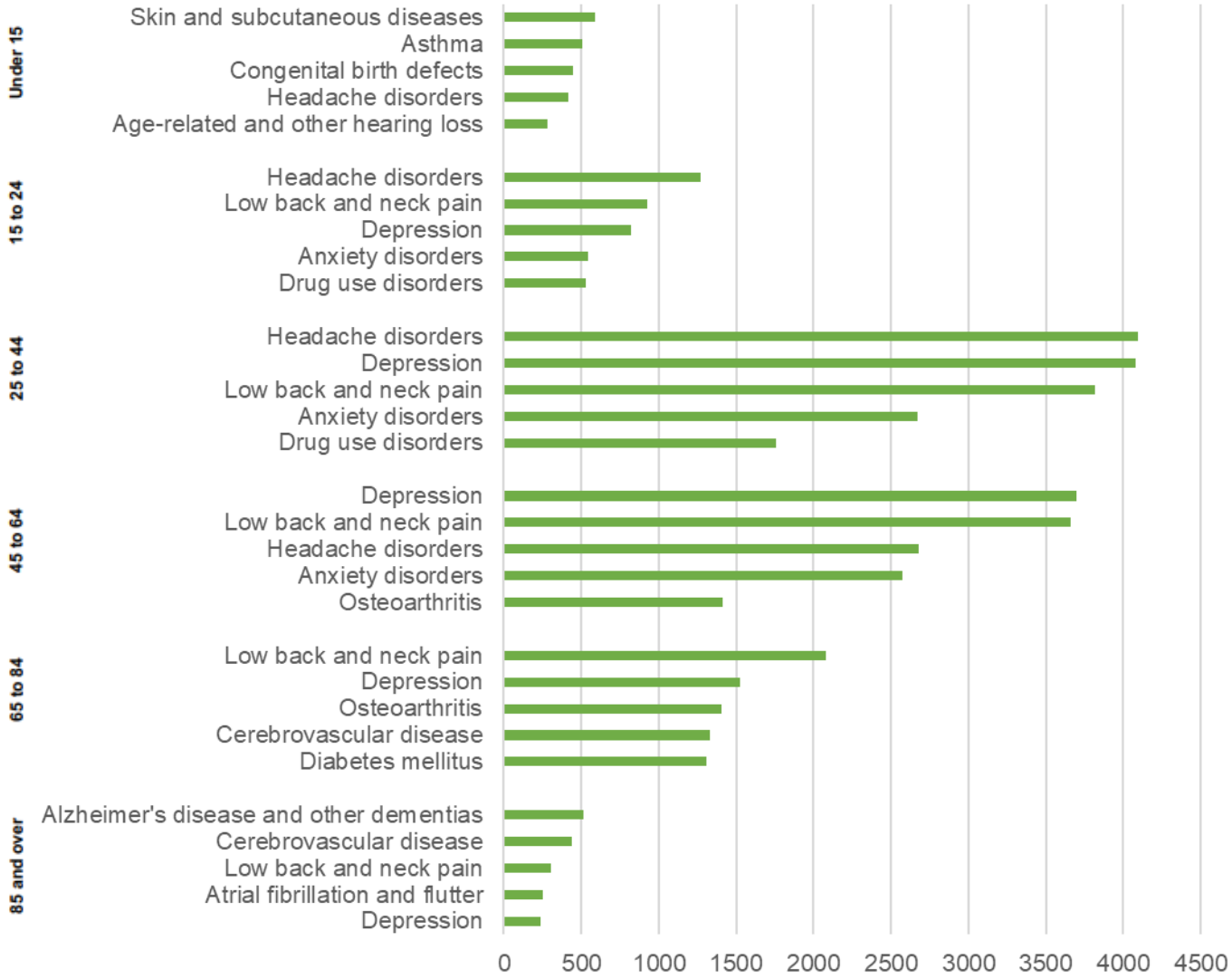
Maintaining and sustaining interventions and efforts to mitigate and prevent the underlying causes of these diseases is required to reduce forecasted disease burdens, and their impact on the long-term sustainability of the health and social care system.

This section provides an overview of the types of disease that have the greatest impact on population health in Lothian, using data from the Scottish Burden of Disease Study and service data across primary and community services, outpatients, emergency department attendance and hospital inpatient activity. It can be used to assist discussions relating to health service prioritisation. Further data tables and charts can be found in Appendix 2.

Years of life lost to disability (YLDs) were selected for the analyses presented here as a proxy for burden on the health system, rather than the social, emotional and economic burden of mortality. YLDs do not incorporate loss of healthy years of life due to death (as is the case for Disability Adjusted Life Years – DALYs).

Figure 2 presents the absolute number of years of healthy life lost for the top 5 causes by age group, reflecting the likely activity burden of disease on services. It also highlights that the health service burden is likely to be greatest amongst those currently aged 25-44, which is likely to carry forward as this cohort ages.

Figure 2. Number of years of healthy life lost, top 5 causes by age (both sexes, Lothian, 2019)



Source: [Scottish Burden of Disease Study]

Table 1 shows the incidence of the top 25 long-term conditions presenting at general practices in Lothian (based on a sample of 102 practices). Data show the weekly direct contact rate per 1,000 registered patients for the whole general practice team (all clinical staff excluding administrative staff). Direct encounters involve direct contact between clinical staff and a patient, including face-to-face surgery consultations, home visits, telephone consultations, video consultations, clinics and eConsultations that have been recorded on Vision/EMIS.

These data highlight clear opportunities for preventative action, not least the range of health conditions affected by modifiable risk factors such as poor diet, low levels of physical activity, smoking, and substance use.

Table 1. Incidence of top 25 long-term conditions presenting at general practices (based on a sample of 102 practices across Lothian)

Long-term condition group	Lothian Incidence per 100K (2022)
Hypertension	714.1
Arthritis/Arthropathy	591.7
Active Cancer	421.2
Diabetes	403.7
Alcohol and substance misuse	348.2
Depression and related disorders	331.5
Asthma	293.0
Ischaemic Heart Disease	283.1
Chronic psychiatric disorders	272.8
Atrial Fibrillation	270.5
Obesity	235.8
Stroke	232.2
Progressive neurological disease	212.5
Chronic Obstructive Pulmonary Disease	211.5
Heart Failure	166.3
Osteoporosis	164.3
Hip fracture	118.5
Peripheral Vascular Disease	73.9
Liver disease	66.6
Bronchiectasis	44.9
Epilepsy	43.8
Inflammatory Bowel Disease	36.3
Pulmonary fibrosis	35.1
Renal disease	26.2
Abdominal Aortic Aneurysm	21.8

Source: LAS Primary Care Multimorbidity Tableau dashboard

Figure 3 presents the number of individuals on the Tier 3 dietetics waiting list, by age and SIMD quintile. As this figure presents the absolute number of people waiting, and not percentage, it reflects the underlying demographic distribution of Lothian. However, despite Lothian having disproportionately fewer individuals living in Scotland's most deprived areas, the absolute number of people waiting in the most deprived 40% (SIMD quintiles 1 and 2) remains where the largest burden on Tier 3 dietetics services is observed.

Figure 3. Number of Lothian population on Tier 3 Dietetics Waiting list (by age and SIMD quintile)

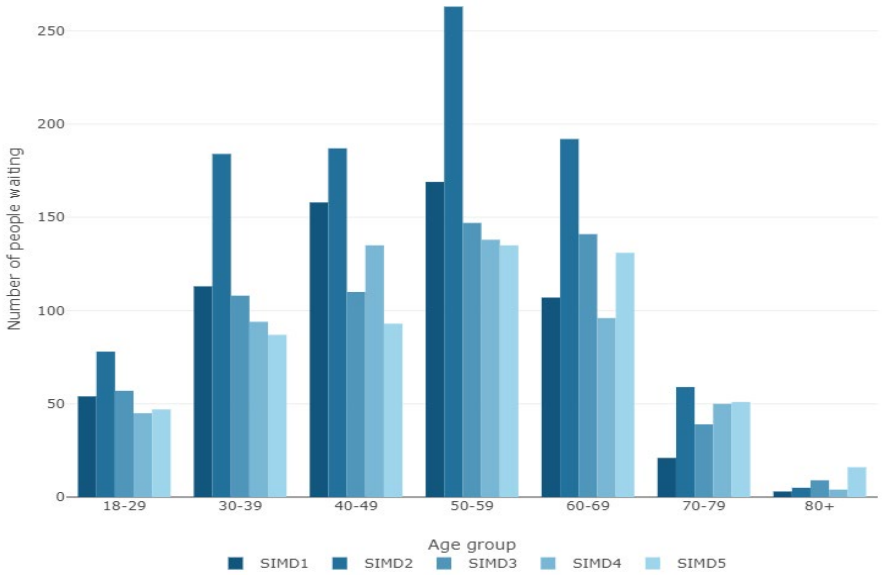
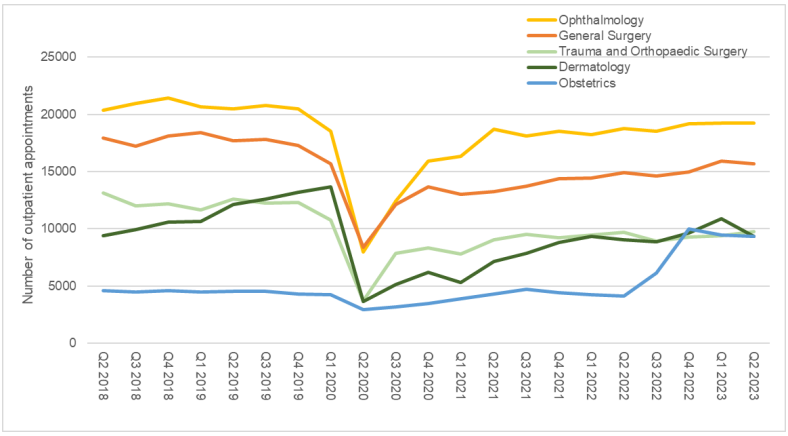


Figure 4 provides trends 2018-2023 in the number of NHS Lothian outpatient appointments by speciality (top 5 specialities as of Q2 2023).

Figure 4. NHS Lothian trends 2018-2023 in number of outpatient appointments by specialty (top 5 specialties as of Q2 2023)



Source: [Scottish Health and Social Care Open Data]

The estimated cost of activity in the outpatient setting by specialty shows the overall highest cost burden is associated with gastroenterology (£24m), clinical radiology (£21m) and ophthalmology (£20m). Highest average cost per activity was in medical oncology (£805). The greatest levels of activity were in clinical radiology (303,479), general psychiatry (245,483) and physiotherapy (199,814). The data includes those who did not attend.

Figure 5 demonstrates the proportion of emergency attendances that were diagnosed with a potentially preventable condition. The number, and proportion, of attendances due to preventable conditions has been increasing since 2019/20 and contributed to 8.3% of all attendances in 2022/23; almost returning to pre-pandemic levels (9.2% in 2018/19).

Figure 5.

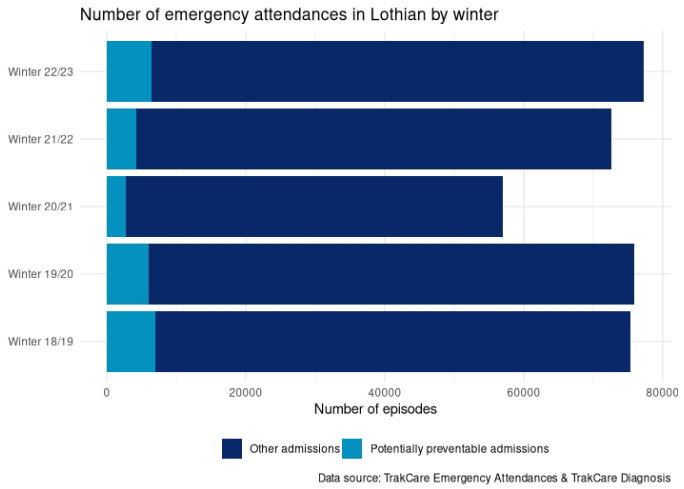


Figure 6 shows the number of admissions with stays over 3 days for potentially preventable conditions, in the last 5 years. The conditions are broadly similar over the last five years and the effect of the pandemic can be seen in reducing longer admissions. However, the number of longer stays due to influenza and pneumonia have increased from pre-pandemic levels.

Figure 6.

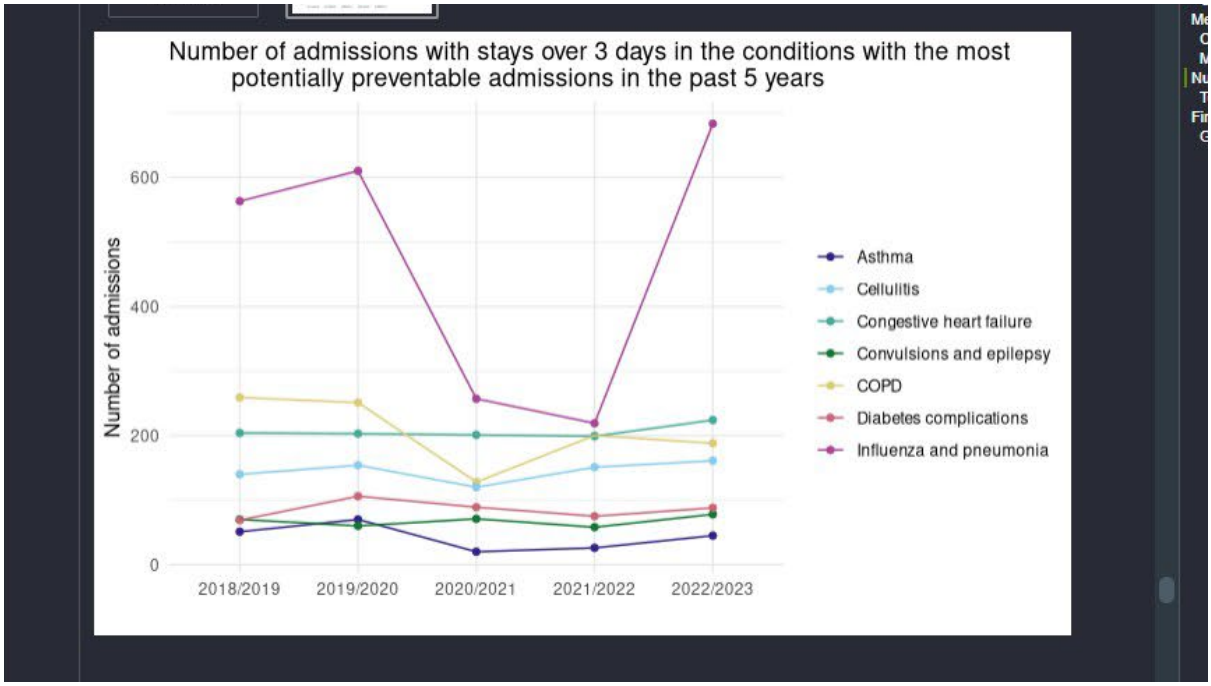
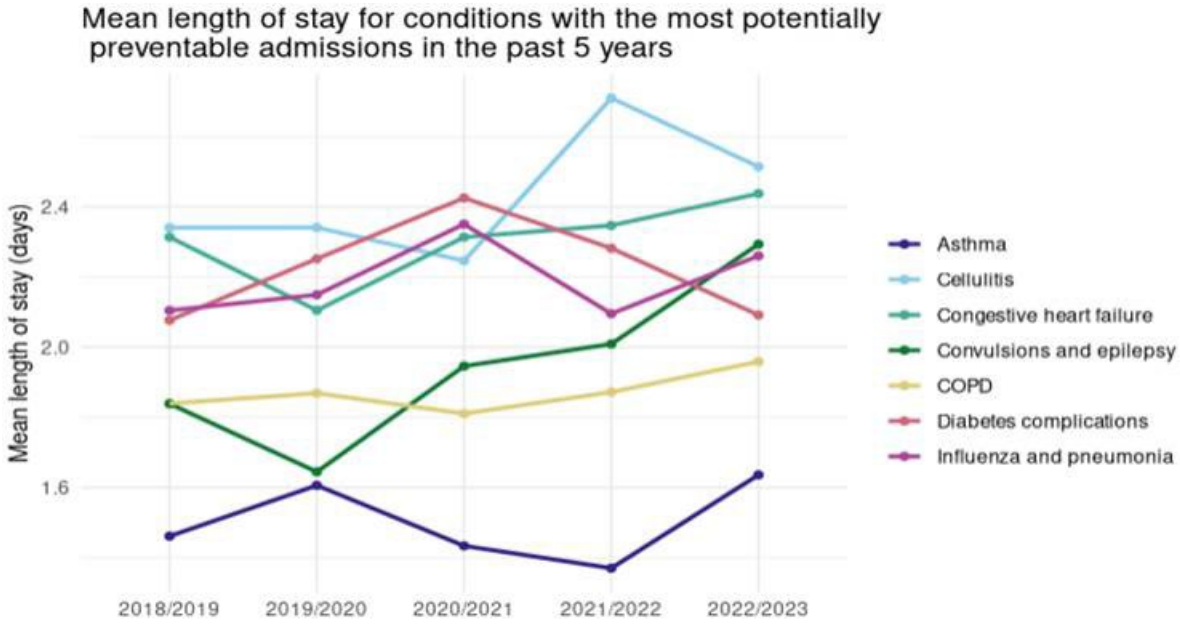


Figure 7 shows the mean length of stay for conditions with the highest number of potentially preventable admissions. The length of stay is increasing for all displayed conditions after the pandemic, particularly for convulsions and epilepsy. The mean length of stay is highest for congestive heart failure and cellulitis.

Figure 7.



Note: outliers (length of stay greater than 8.5 days) are removed from this figure

Finance estimate costs at individual patient level factoring in staff costs, length of stay and non-pay costs such as medication, food, and building costs. Data is based on primary diagnosis therefore long-term conditions (which may be a focus for prevention activity) are likely to be understated as they tend to be further down the coding line and coding is often incomplete.

In 2022/23, diagnoses with the highest total costs included schizophrenia (£26.3m), falls (£24.7m), postpartum haemorrhage (£15m) and atherosclerotic heart disease (£10.4m). Average cost per activity is highest for mental health related conditions such as schizophrenia, dementia and eating disorders.

The health needs of patients admitted to hospitals are also becoming more complex. In Scotland, a nationally representative study of almost 1.8 million people derived from electronic primary care records found a multimorbidity prevalence of 24%, with most people over the age of 65 years having multimorbidity.[ix] This study also found inequalities in multimorbidity across Scotland, with people living in the most deprived areas having higher rates of multimorbidity, with onset 10-15 years earlier, than those living in the least deprived areas.

3.1 Data summary

Cardiovascular diseases, type-2 diabetes, cancers, neurological conditions, falls injuries, common infectious disease and chronic respiratory conditions are likely to contribute the most significant burden on population health, and healthcare services. The data presented above can be used to prioritise prevention activity for the health and care system, in a bid to reduce the future burden on population health and healthcare services. Data also show a high burden from mental health and somatic symptoms in the working age population. Drug use disorders are a leading cause of ill health in younger cohorts (15-44 years).

There are common disease risk factors associated with many of these conditions – poor diet, inactivity, smoking and alcohol use. There are opportunities to step-up structural interventions that address the availability and accessibility of alcohol and tobacco, the food environment, and the social factors that influence mental ill health. Immunisation programmes remain key to disease prevention, including those which result in prolonged hospital stays.

Waiting list data (presented here for tier 3 weight management support) provides a stark illustration of the reason we need to invest more in prevention. The average wait time for tier 3 weight management services in Lothian is >250 days. The data demonstrates inequalities in health and service burden, with disproportionate waits for those in the 40% most deprived communities of Lothian.

The data also highlight the challenge of increasing complexity and multimorbidity on services with increasing length of stay for potentially preventable conditions. It is important to understand the underlying reasons for increasing length of stay and this may provide a focus for targeted discharge planning to optimise flow through the acute healthcare system.

If health outcomes are to improve in Lothian, there needs to be a strong focus on and investment in primary prevention; actions that improve the conditions in which people work, live and grow, delivered at both a whole population level and targeted at groups at highest risk.[x]

4. Feedback from Senior Leadership Teams

Following presentation of a discussion paper on prevention at the Corporate Management Team, discussion has taken place with the Primary Care Joint Management Group, Acute Senior Management Team, and four HSCP Senior Management Teams (further meetings are planned with the Women's and Children's Corporate Management Teams and REAS Senior Management Team).

Stakeholders were invited to share thoughts on the proposed approach to strengthening prevention across the Lothian health and care system, as well as identify priority areas for action. A summary of points raised is set out below.

- Recognition of the importance of maintaining a focus on prevention, but an acknowledgement that this is challenging in the current financial climate.

- Ensuring alignment with other prevention and early intervention strategies and plans to allow for a co-ordinated system-wide effort.
- The need for future projections on population demographics and the burden of disease, to support service planning and to future-proof provision.
- A focus on both access to and effectiveness of services, and how we ensure services are aligned to need (proportionate universalism).
- Exploring the available evidence of effectiveness in terms of reducing (inappropriate) hospital attendance. Frequent attenders to the emergency department were also cited as an existing pressure on services.
- Identifying opportunities for earlier intervention in disease pathways e.g., where is the greatest burden on outpatient services and are there opportunities to intervene earlier?
- Ensuring work to tackle overconsumption of alcohol is explicit in prevention plans given the increasing detrimental impact on population health and healthcare services.
- Premature frailty and support for healthy ageing.
- Obesity and Type-2 diabetes creating pressure on services, and the need to disrupt the increasing trajectory given increasing cost of treatment.
- Musculoskeletal conditions and the role of Allied Health Professionals.
- Strategic approach to falls prevention.
- Future management of long-term conditions e.g., Long-Covid and COPD.
- Digital prevention opportunities and support for self-management.
- Identifying the barriers to take-up of existing prevention programmes and enabling frontline teams to support patients to access the help available, for example, smoking cessation services.
- The importance of healthy places and connected communities in improving population health and reducing health inequalities, including strengthening the role of the third sector in supporting people to take up opportunities to participate in their local community.

5. Embedding prevention

5.1 Social determinants of health

NHS Lothian and the four Health and Social Care Partnerships, as public health leaders, should prioritise work on addressing the social determinants of health alongside the direct delivery of healthcare. This includes continuing to deliver and develop work on their role as an Anchor Institution, tackling child poverty, income maximisation and support for the NHS workforce in the current financial climate.

People's health, and inequalities in health between different population groups, are significantly shaped by their access to money and resources, work, housing, transport, the quality of their neighbourhood and surroundings, as well as family, friends and community.[xi] Without these building blocks, it is harder for our population to live healthy lives. Although these determinants of health are largely shaped outside the Lothian health and care system, there are important roles for public health and strategic planning teams to engage with public, private and community and voluntary sector partners, in a place-based way, to ensure health is considered in wider policy making. NHS Lothian, as an anchor institution, is well placed to positively influence the social, economic and environmental conditions in local communities, thereby impacting on the wider determinants that influence health and wellbeing and ultimately preventing and reducing future ill health. There are also roles that all services can play in ensuring that the social determinants of health are considered as part of both service design, and the ways in which service users are supported to manage their health and wellbeing.

Action should be prioritised in the following areas:

- **Access to money and resources** – there is a strong relationship between money, income and wealth, and health outcomes. Taking action to reduce poverty and maximise incomes reduces financial stress and provides people with a standard of living that protects and promotes their health.
- **Access to and maintenance of employment** – employment can have a significant influence on health and wellbeing. In addition to providing sufficient income and social connections, work quality and job security are also important factors which influence health and wellbeing.
- **Housing** – secure, quality and affordable housing is a vital building block for physical and mental health and wellbeing. Spending a high proportion of household income on housing leaves less for other essentials such as food and energy costs. Action on improving housing stability and security, and preventing homelessness, can have a significant positive impact on people's lives.
- **Transport** – transport provides opportunities for active travel which has a direct positive impact on health. It can also be associated with negative effects such as air pollution. Transport supports other building blocks of health, by providing access to public services and employment.
- **Neighbourhood and surroundings** – the environment in which people live can have a significant impact on health and health inequalities. Acting on, and increasing community resilience to, climate change can protect people from the effects of severe weather, infectious disease and other health impacts of climate changes. Working to address the

commercial determinants of health can reduce the availability, accessibility and affordability of health-harming products such as alcohol, tobacco and food and drinks high in fat, sugar and salt. Local planning policy, and considering use of land and assets, can provide opportunities to improve population health, for example by increasing access to greenspace.

- **Family, friends and community** – social relationships are important for health and wellbeing, and can reduce loneliness, reduce stress responses and influence healthy behaviours. Connecting with people in local communities and feeling safe can also influence health.

Appendix 3 highlights detailed actions that can be taken within the Lothian health and care system on the social determinants of health, as well as other work that needs to be undertaken in partnership with wider stakeholders.

5.2 Maternal, children and young people's health

As the chances of lifelong health, wellbeing, illness and disease begin to accumulate even before conception, primary prevention that supports women pre-conception and children in their early years can lay the best foundation for future health[xii]. The early years is the period of life when interventions to disrupt inequalities are most effective. Interventions in the early years have been shown to be cost-effective and yield significant return on investment. Research shows that high-quality birth-to-five programmes for disadvantaged children can deliver a 13% annual return on investment.[xiii] Therefore, it is important that protecting maternal and children's services is a priority focus of future decision making. This should include working collaboratively with community planning partners to maintain a system wide focus on early years and children. Protecting investment in early years services will deliver better outcomes in education, health, social behaviours, and employment in the long term. It is essential for maximising future population health.

Action should be prioritised in the following areas:

- **Child poverty** – prevention of child poverty will improve the health of children and families and reduce health inequalities.
- **Access to long-acting reversible contraception (LARC)** – ensuring accessibility of effective contraception (such as LARC) is proportionate to need, will contribute to reduced inequalities in unintended pregnancy and the associated personal and economic costs.
- **Smoking in pregnancy** - reducing smoking prevalence among pregnant women has the potential for significant population health benefit, by reducing risk of still-birth, premature birth, low birthweight and other negative maternal and child health outcomes.
- **Perinatal, infant, children and young people's mental health and wellbeing** - good mental health support at an early age can protect and promote future mental wellbeing and resilience. Providing services that identify and treat perinatal mental health problems early and effectively leads to considerably better outcomes for women, babies, and families, and makes economic sense.
- **Infant feeding** – breastfeeding protects both maternal and infant health from a range of diseases and infections and supports the mother-baby relationship and mental health

and wellbeing. Breastfeeding results in fewer hospital admissions and GP consultations, contributing savings to the NHS.

- **Child development** - problems with early child development are important as they are strongly associated with long-term health, educational, and wider social difficulties. Detecting developmental problems early provides the best opportunity to support children and families to improve outcomes, and ensure children are ready to learn.

Appendix 3 highlights detailed actions that can be taken by the Lothian health and care system to protect and improve maternal, children and young people's health.

5.3 Tackling modifiable risk factors and the future burden of disease

For healthcare settings there is evidence to continue supporting interventions that tackle modifiable risk factors including smoking, alcohol and obesity and a continued focus on services that tackle respiratory, diabetes and cardiovascular conditions. These should be delivered alongside screening and immunisation programmes as part of an effective prevention plan.

A range of public health programmes are already offered on a universal or targeted basis across Lothian. There is an opportunity to further explore how these offers are better linked to the scheduled or unscheduled care touch points that people already have with our services. This can be particularly important for certain population groups, including groups sometimes referred to as 'inclusion health groups', who may be more likely to present in an unscheduled way, as well as those who are supported by specialist services.

Action should be prioritised in the following areas:

- **Hospital-based income maximisation services** – patients' income problems can impact the health and care system by resulting in delayed discharges, inappropriate use of clinical staff time, and increased recovery period and risk of readmission. Provision of hospital-based income maximisation services results in increased financial gain for patients.
- **Smoking cessation** – smoking causes significant harm to individuals, families, the NHS and the economy. Smoking prevalence is significantly patterned by socioeconomic position. Referrals by health professionals of people who actively want to stop smoking have high chances of a successful quit, so ensuring pathways to smoking cessation are clear and effective is essential.
- **Cardiovascular disease** - cardiovascular disease caused the greatest burden of disease in NHS Lothian and across Scotland in the Scottish Burden of Disease study, 2019.[xiv] Prevention has a key role in tackling the health burden from cardiovascular disease and opportunities to strengthen preventative action across cardiovascular pathways should be explored.
- **Type 2 diabetes** – type 2 diabetes is affecting an increasing number of individuals, families and communities because of increasing levels of obesity and an ageing population. It is a condition that, for many people, could be prevented, or diagnosis delayed. Obesity, the main modifiable risk factor for type 2 diabetes, is a complex issue and is rooted in inequalities. Population-level approaches are required to disrupt the current upward trajectory for type 2 diabetes.

- **Immunisation** - immunisation is the most cost-effective intervention for saving lives and improving the health of the population. Immunisations help protect the population against serious vaccine preventable illness. Concerted effort is required to improve, and reduce inequalities in, uptake of vaccinations.
- **Screening** - national screening programmes are evidence based and can identify individuals who may be at future risk of a particular medical condition or disease or detect early indications of disease or conditions with the aim of intervening to reduce their risk. Screening uptake needs to be maximised to ensure programmes are effective and efficient, and to maximise population health gain.
- **Falls prevention** - falls are estimated to cost the NHS more than £2.3bn per year. Morbidity from hip fracture contributes to the demand on health and social care services. Given the ageing population, this burden is likely to increase further over the coming years. Implementation of evidence-based interventions can be effective in preventing and reducing future risk of falls.

Appendix 3 highlights detailed actions that can be taken within the Lothian health and care system to tackle the future burden of disease.

6. Implementation

Consideration is required on how best to implement a more strategic approach to prevention activity, and how this is monitored and evaluated. 'Implementation gaps' in prevention activity often exist because uptake of existing programmes is too low, capacity to deliver stated ambitions is insufficient, prevention activity is underfunded, and investment is focused on short-term goals.[xv] It is important that implementation considers the above, and that prevention activity is integrated with the Lothian health and care system strategy (Lothian Strategic Development Framework) and the work of the established Programme Boards.

A national population health strategy is under development and due to be published in Autumn 2024. It is important that Lothian's approach to prevention is responsive to this national plan.

An Integrated Impact Assessment is required on Lothian's prevention plan to ensure it delivers for everyone who needs support, tackles health inequalities and promotes and furthers children's rights. This will allow prevention activity to be targeted, where appropriate, to improve outcomes within available resources, as has been the case with recent decisions about prioritisation of insulin pump therapy for those with type 1 diabetes.

It will be important for the Lothian health and care system to deliver prevention activity that shows impact in the short to medium term, whilst continuing to deliver prevention activity which will require a longer term commitment. A measurement framework to assess impact of prevention activity will be developed.

7. Recommendations for the health and care system

1. NHS Lothian should use the data and evidence in this paper (and in Appendix 2) to inform forthcoming Integrated Impact Assessments that are being undertaken where reductions in healthcare are being considered, to ensure that those areas which would have the greatest impact on future population health outcomes are prioritised over other areas, acknowledging that reductions in healthcare provision do not have equal impact across the population.

2. NHS Lothian should continue its commitment to becoming an Anchor Institution with population health at the heart of the Lothian Strategic Development Framework.

3. Public health in Lothian should increase the pace of its activity with Community Planning Partnerships to take forward the interventions identified to address the social determinants of health as outlined in Appendix 3.

4. The four Integrated Joint Boards in Lothian should ensure that the evidence and data contained in this paper are incorporated into their current strategic plans and inform future planning and development.

5. Public health should work collaboratively with Acute and primary care services to ensure clinical staff can easily refer those who need non-clinical support to the appropriate service, thereby maximising use of existing prevention programmes such as income maximisation, smoking cessation, immunisation and screening.

6. NHS Lothian and the four health and social care partnerships should, where possible, protect and increase efforts to improve maternal, children and young people's health, as the best investment to maximise future population health.

7. The Realistic Medicine Board and Public Health should consider how it can strengthen prevention across cardiovascular disease pathways, including type 2 diabetes.

8. The health and care system should consider and agree how it continues to integrate prevention activity within the Lothian health and care system strategy and set out how it will measure impact of prevention activity over the short, medium and longer term.

Ashley Goodfellow
Deputy Director of Public Health
11 April 2024

Acknowledgements
With thanks to public health colleagues who helped draft this report and colleagues in Public Health Scotland for reference papers on Prevention and Prioritisation, and long-acting reversible contraception use in Scotland.

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Appendix 2. Data and Intelligence on Population-level Health and NHS Lothian system demand

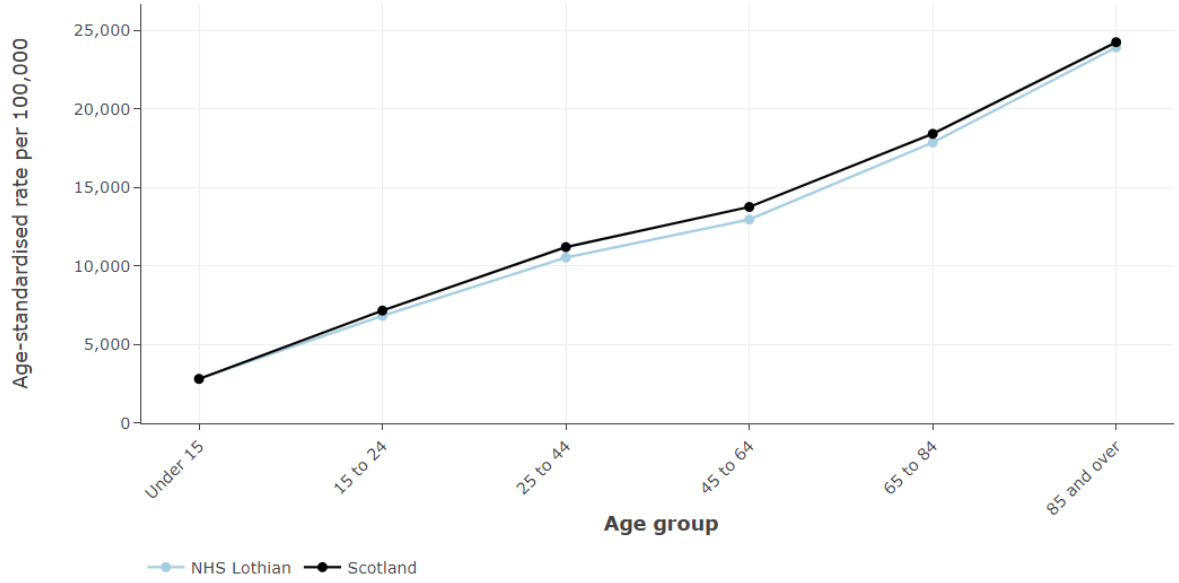
1. Burden of disease on population health

This section provides an overview of the types of disease that have the greatest impact on population health in Lothian, disaggregated by demographic characteristics.

Years of life lived with disability (YLDs) were selected for the analyses presented here as a proxy for the level of demand on Lothian's health and care system, rather than the social, emotional and economic burden of mortality. YLDs do not incorporate loss of healthy years of life due to death (as is the case for Disability Adjusted Life Years – DALYs).

ScotPHO's Scottish Burden of Disease Study estimates YLDs for individual disease/injury classifications using a range of data sources spanning primary and secondary care, national surveys (such as the Scottish Health Survey) and disease registers.

Figure 1. Years of life lived with disability by age (Age-standardised rate per 100,000, 2019, both sexes)



Mirroring what is seen nationally, Figure 1 demonstrates how ill health in Lothian increases with age, with nearly 25,000 healthy years of life lost per 100,000 aged 85 and over, compared to less than 10,000 for 15 to 24 year olds. Given this pattern, the overall population burden of ill health is likely to increase over time as Lothian's population is getting progressively larger and older over time.

Figure 2. Leading causes of ill health (number of years of life lived with disability), by sex, NHS Lothian (2019)

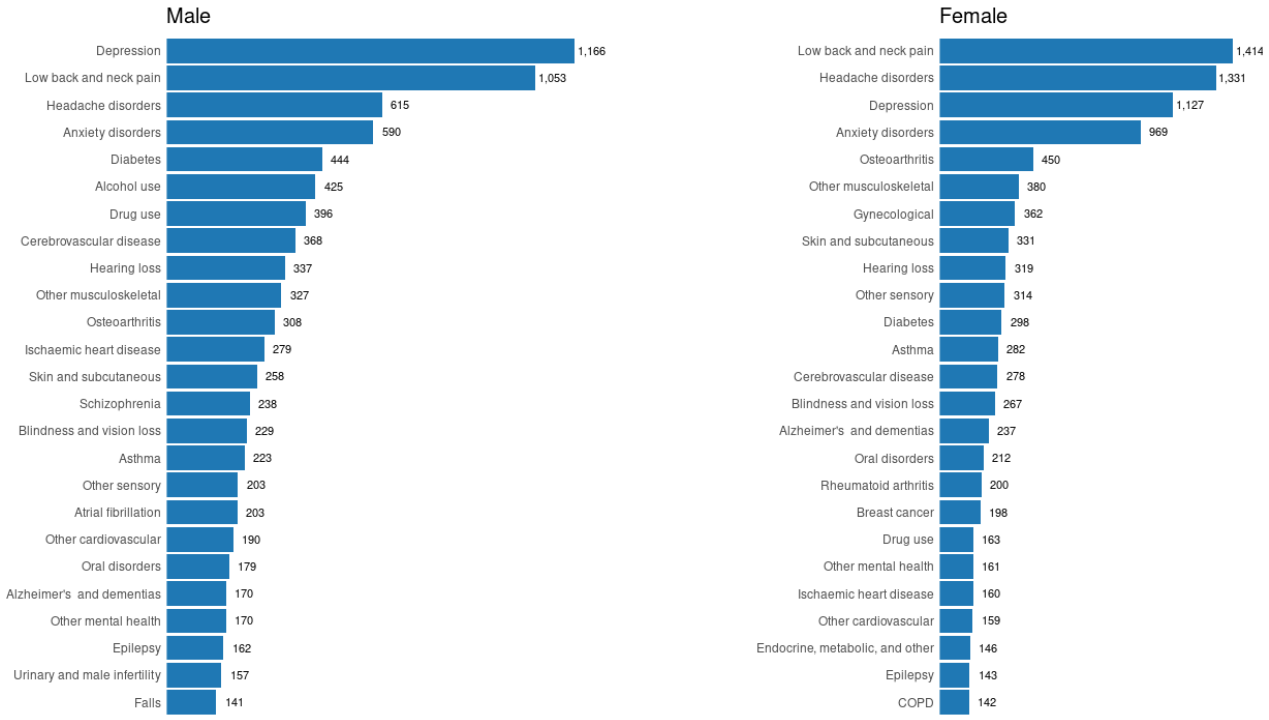


Figure 3. Years of life lived with disability, by cause and sex (NHS Lothian, 2019)

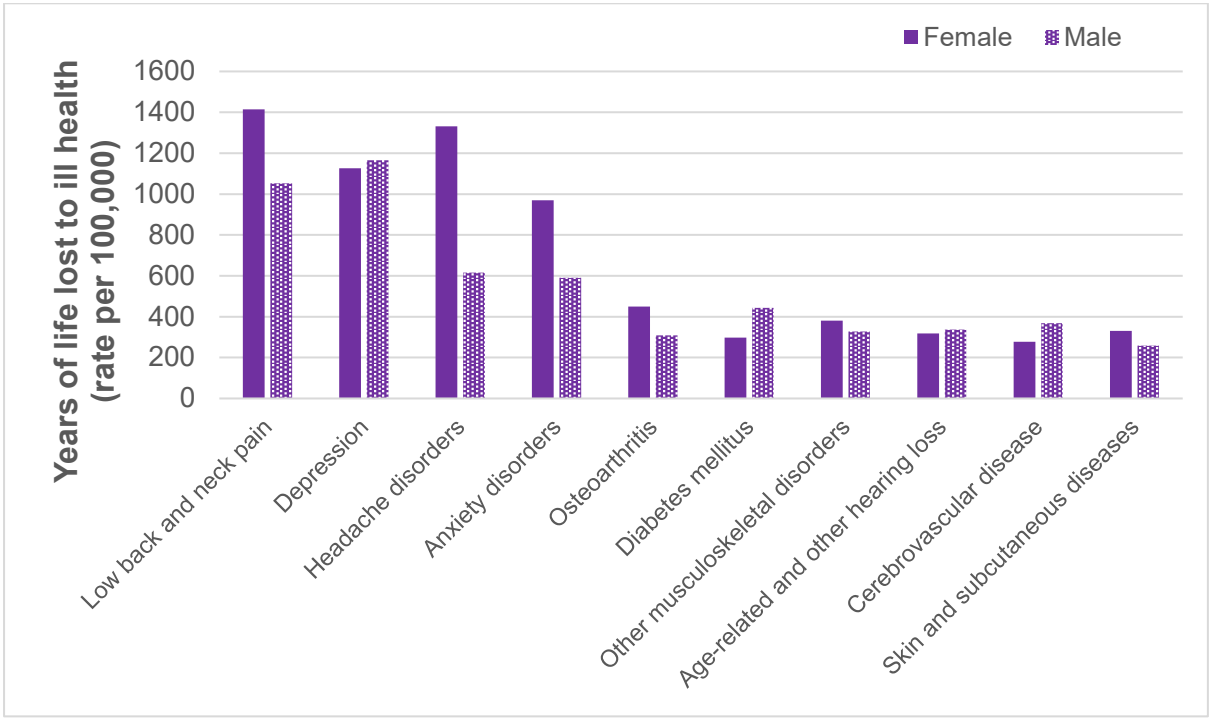


Figure 2 presents the top 25 causes of YLDs, separately for males and females, and Figure 3 shows the top 10 causes across Lothian as a whole, by sex. While males typically have lower life expectancy and higher mortality rates, Figure 3 demonstrates that females have a higher burden for many of the leading causes of ill health. This is particularly true for headache and anxiety disorders, where females' rate of years lost to ill health is over double that experienced by males. Males have a higher burden for relatively few of the top causes of ill-health, with the most notable exception being for diabetes where males' rate of years lost to ill health is around 1.5 times that experienced by females.

Figure 4a. Years of life lived with disability, top 5 causes by age (Lothian males, 2019)

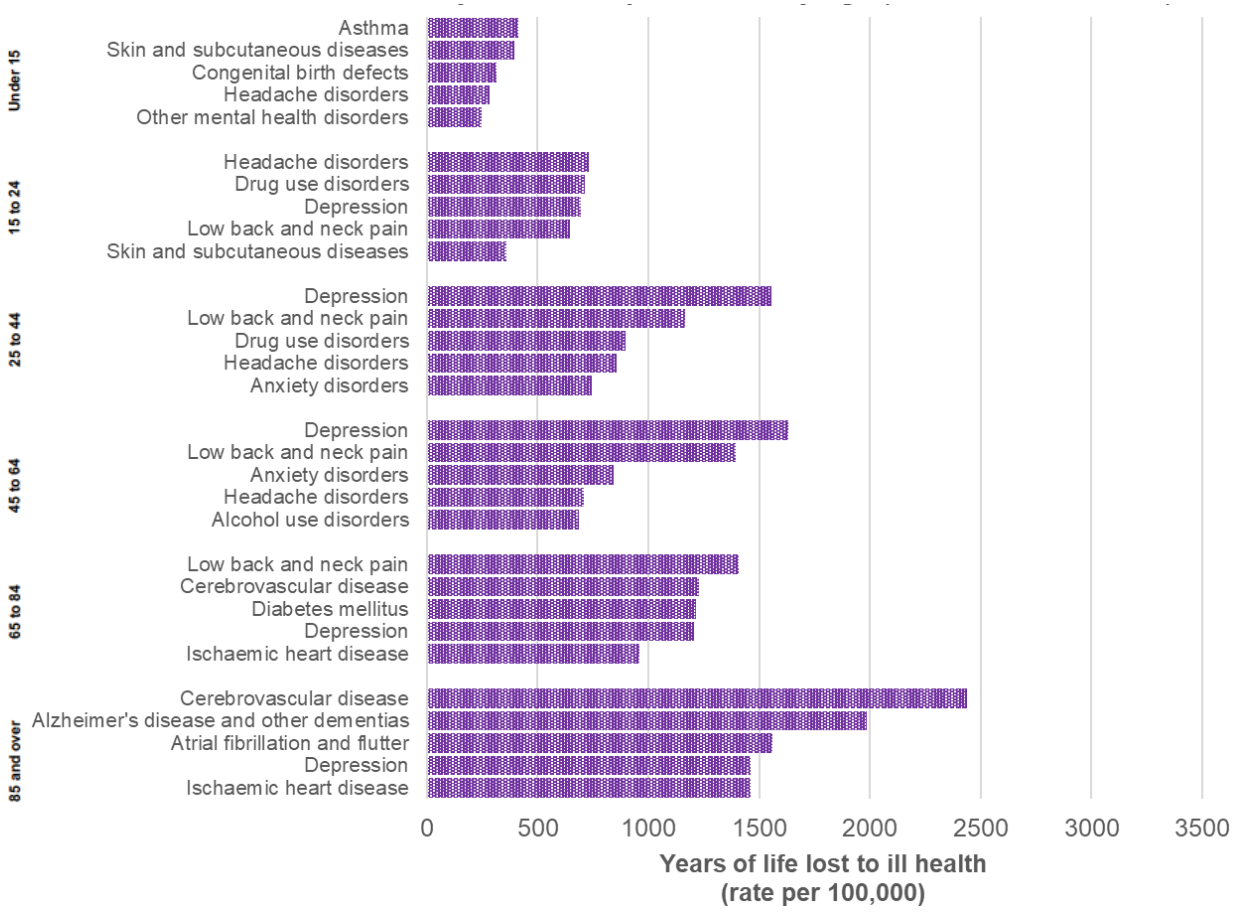
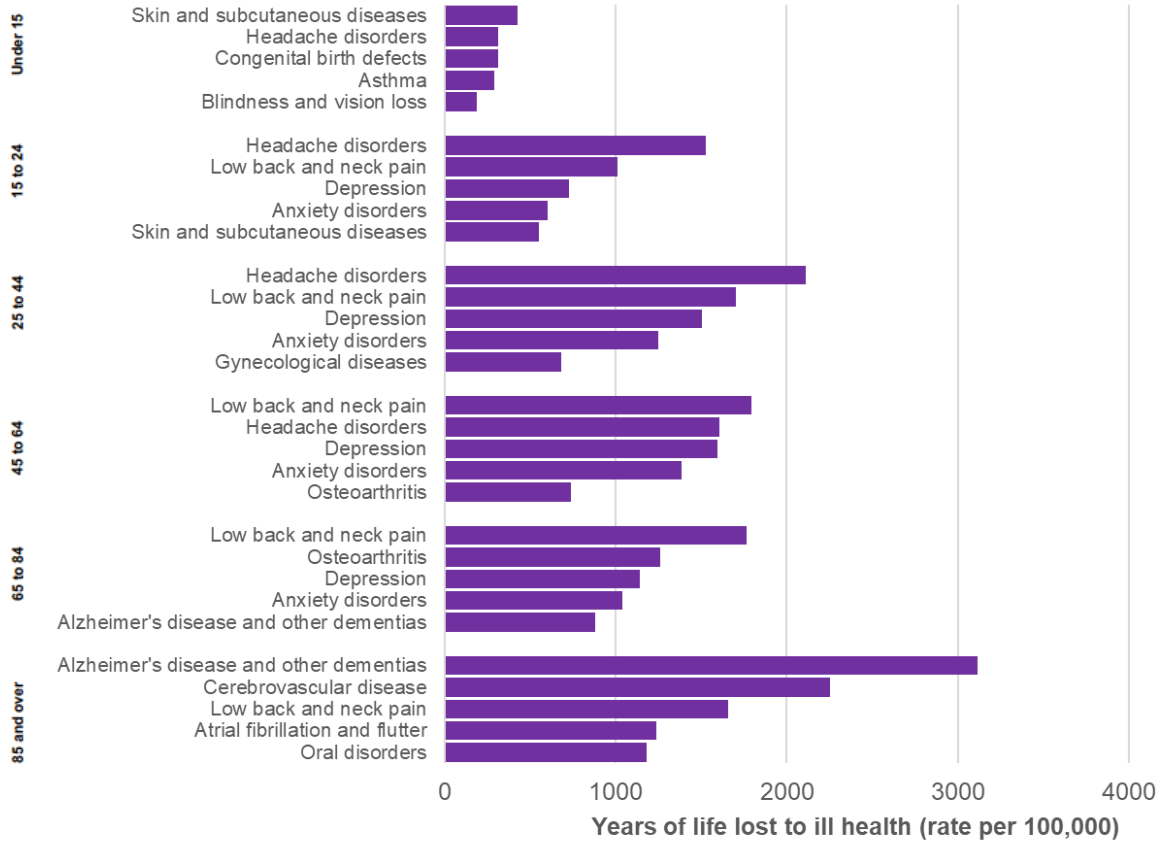


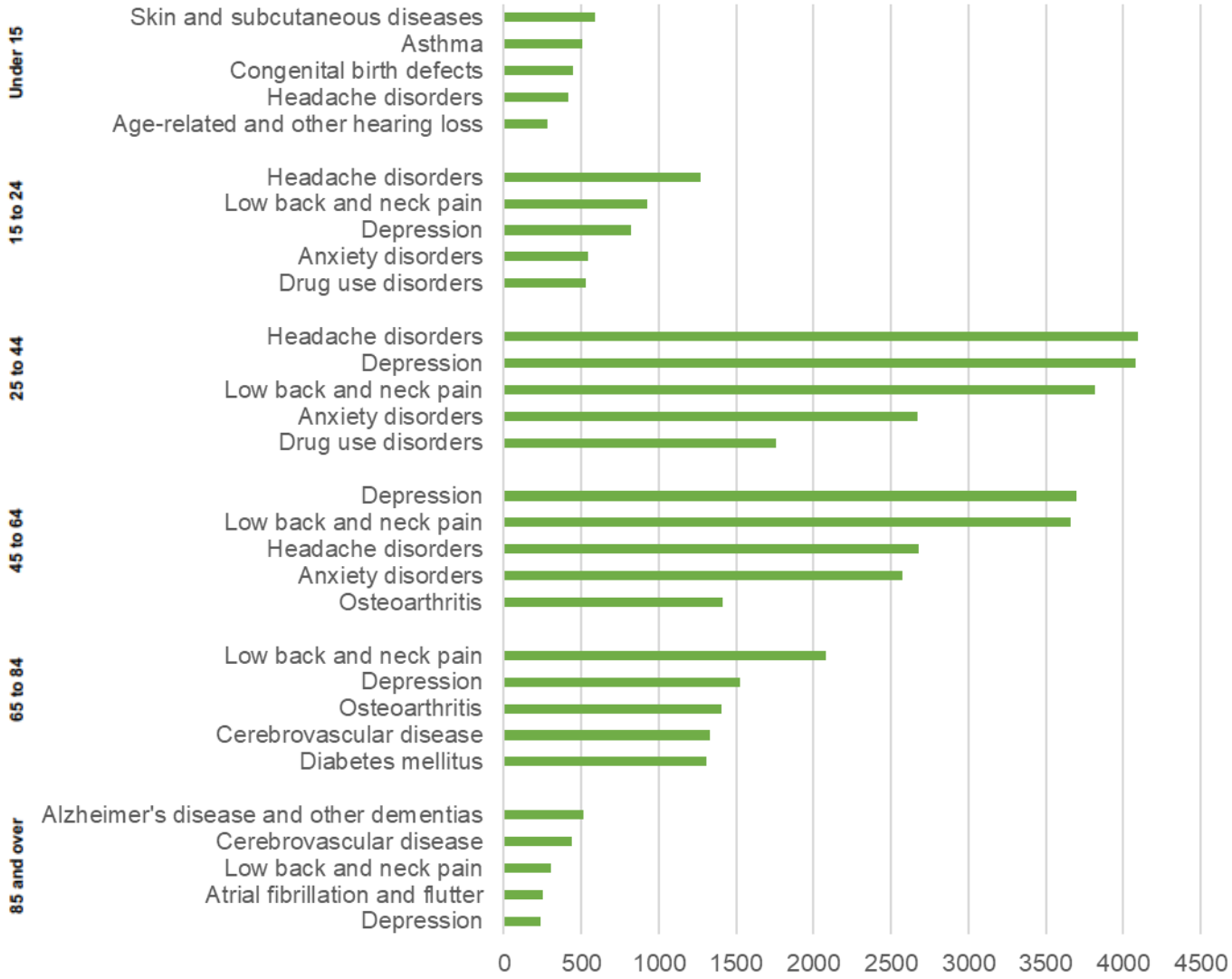
Figure 4b. Years of life lived with disability, top 5 causes by age (Lothian females, 2019)



Figures 4a and 4b present data on the rate of healthy years of life lost, presenting the top five causes within each age and sex group for Lothian in 2019. The figures highlight a high and persistent burden of mental health disorders (depression, anxiety disorders) from a relatively early age in both males and females. Indeed, collectively, mental health disorders were estimated to be responsible for over 19,431 years of healthy life lost in Lothian in 2019, around 20% of the total burden of ill health. The figures also highlight a gendered burden of ill health due to drug use for males between the ages of 15-44, which is not captured fully within drug-related death statistics.

Figure 5 presents the absolute number of years of healthy life lost for the top 5 causes by age group. Unlike Figures 4a and 4b which present the *rate* of healthy life loss per 100,000 population, Figure 5 reflects the underlying age distribution of Lothian's current population. As such it might constitute a more accurate reflection of which diseases are responsible for the greatest demand on Lothian's services. Figure 5 also highlights a particularly high burden of mental health disorders amongst those currently aged 25-44, which is likely to carry forward in time as this cohort ages.

Figure 5. Number of years of healthy life lost, top 5 causes by age (both sexes, Lothian, 2019)



2. Demand on healthcare services

This section presents data from a range of sources to evidence what is placing greatest demands on Lothian's healthcare system.

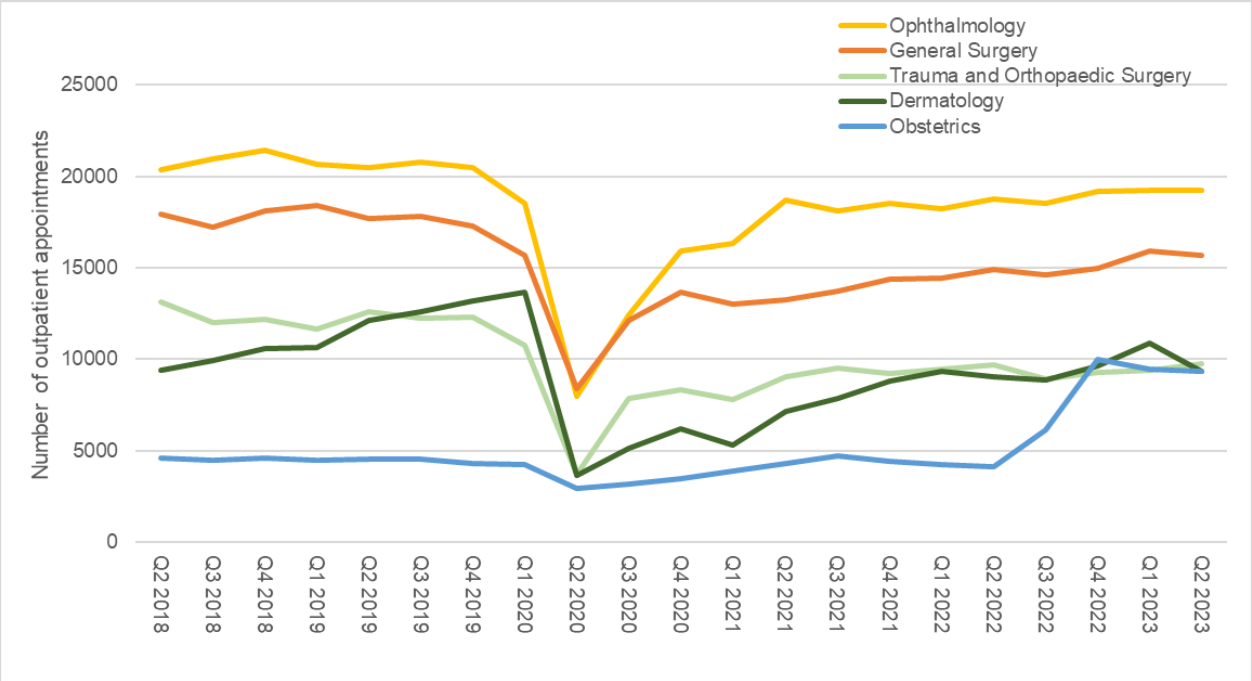
Scottish Health and Social Care Open Data

Table 1. Outpatient Activity. NHS Lothian number of outpatient appointments by specialty (top 20 specialties, Q2 2023)

Specialty	Number of outpatient appointments (Q2 2023)
Ophthalmology	19,239
General Surgery	15,668
Trauma and Orthopaedic Surgery	9,748
Dermatology	9,358
Obstetrics	9,321
Respiratory Medicine	8,750
Gynaecology	8,047
General Medicine	7,451
Gastroenterology	6,711
Ear, Nose & Throat (ENT)	6,401
Endocrinology & Diabetes	6,342
Rheumatology	5,927
Haematology	5,838
Clinical Oncology	5,470
Cardiology	5,382
Neurology	4,821
Plastic Surgery	4,588
Paediatrics	4,022
Urology	4,004
Medical Oncology	3,942
All other specialties	20,700
Total	**171,730**

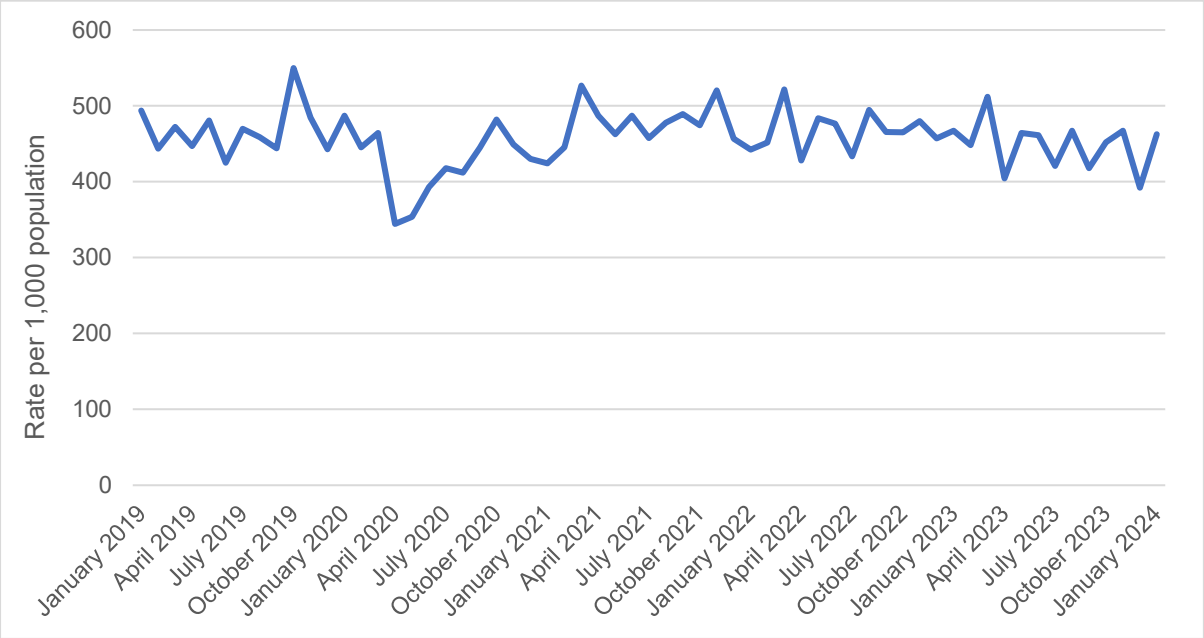
Table 1 presents data from Q2 2023 on the number of outpatient appointments by specialty. Figure 6 presents trends over time in these data, for the five specialties with the highest number of appointments as of Q2 2023.

Figure 6. NHS Lothian trends 2018-2023 in number of outpatient appointments by specialty (top 5 specialties as of Q2 2023)



Primary Care

Figure 7. Number of direct general practice encounters in Lothian (based on a sample of 102 practices)



Source: LAS Primary care Lothian Board Reporting dashboard

Figure 7 presents trends over time in the rate of direct general practice encounters in Lothian (including telephone contacts, surgery consultations, home visits, video and e-consultations and clinic appointments). Extrapolating to the Lothian population, the rate of 462.7 per 1,000 as of January 2024 corresponds to an estimated total number of direct general practice encounters of 479,959 in January 2024.

Note that these data reflect encounters and not individuals. A frequent attender is defined as anyone in the top 5% of attenders. Using this criterion, frequent attenders in Lothian in 2023 (based on a sample of 102 practices) are defined as anyone with 11+ direct consultations with a GP. In the sample, frequent attenders (5% of the sample population) accounted for 31.7% of all direct encounters.

Table 2. Incidence of top 25 long-term conditions presenting at general practices (based on a sample of 102 practices across Lothian)

Long-term condition group	Lothian Incidence Per 100,000 (2022)
Hypertension	714.1
Arthritis/Arthropathy	591.7
Active Cancer	421.2
Diabetes	403.7
Alcohol and substance misuse	348.2
Depression and related disorders	331.5
Asthma	293.0
Ischaemic Heart Disease	283.1
Chronic psychiatric disorders	272.8
Atrial Fibrillation	270.5
Obesity	235.8
Stroke	232.2
Progressive neurological disease	212.5
Chronic Obstructive Pulmonary Disease	211.5
Heart Failure	166.3
Osteoporosis	164.3
Hip fracture	118.5
Peripheral Vascular Disease	73.9
Liver disease	66.6
Bronchiectasis	44.9
Epilepsy	43.8
Inflammatory Bowel Disease	36.3
Pulmonary fibrosis	35.1
Renal disease	26.2
Abdominal Aortic Aneurysm	21.8

Source: LAS Primary Care Multimorbidity Tableau dashboard

Table 2 shows the incidence of the top 25 long-term conditions presenting at general practices in Lothian (based on a sample of 102 practices). This highlights clear avenues for preventative action, not least the range of health conditions affected by modifiable risk factors such as poor diet, low levels of physical activity, smoking, and substance use.

Figure 8. Dietetics - Proportion of Lothian population on Tier 3 Dietetics Waiting list (per SIMD decile)

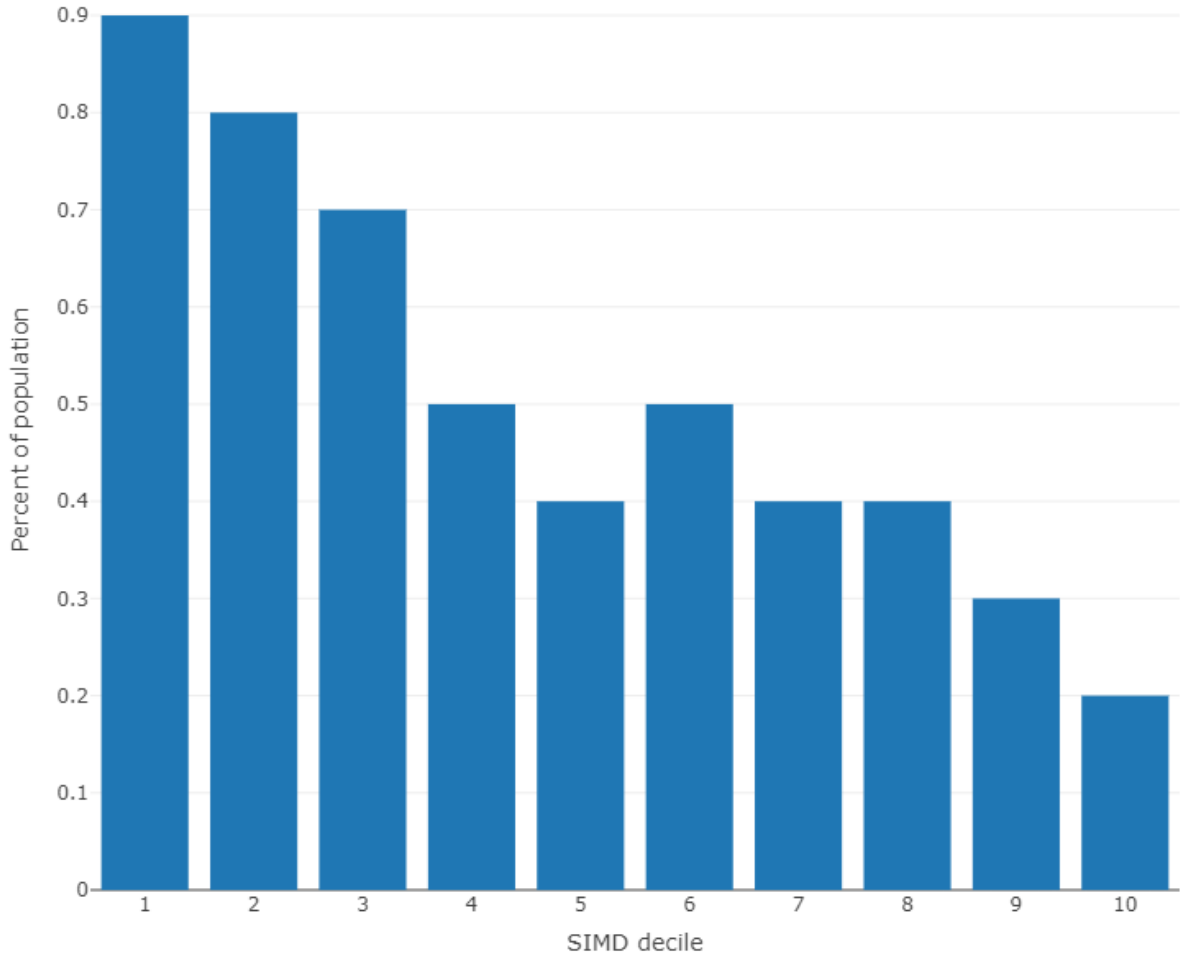
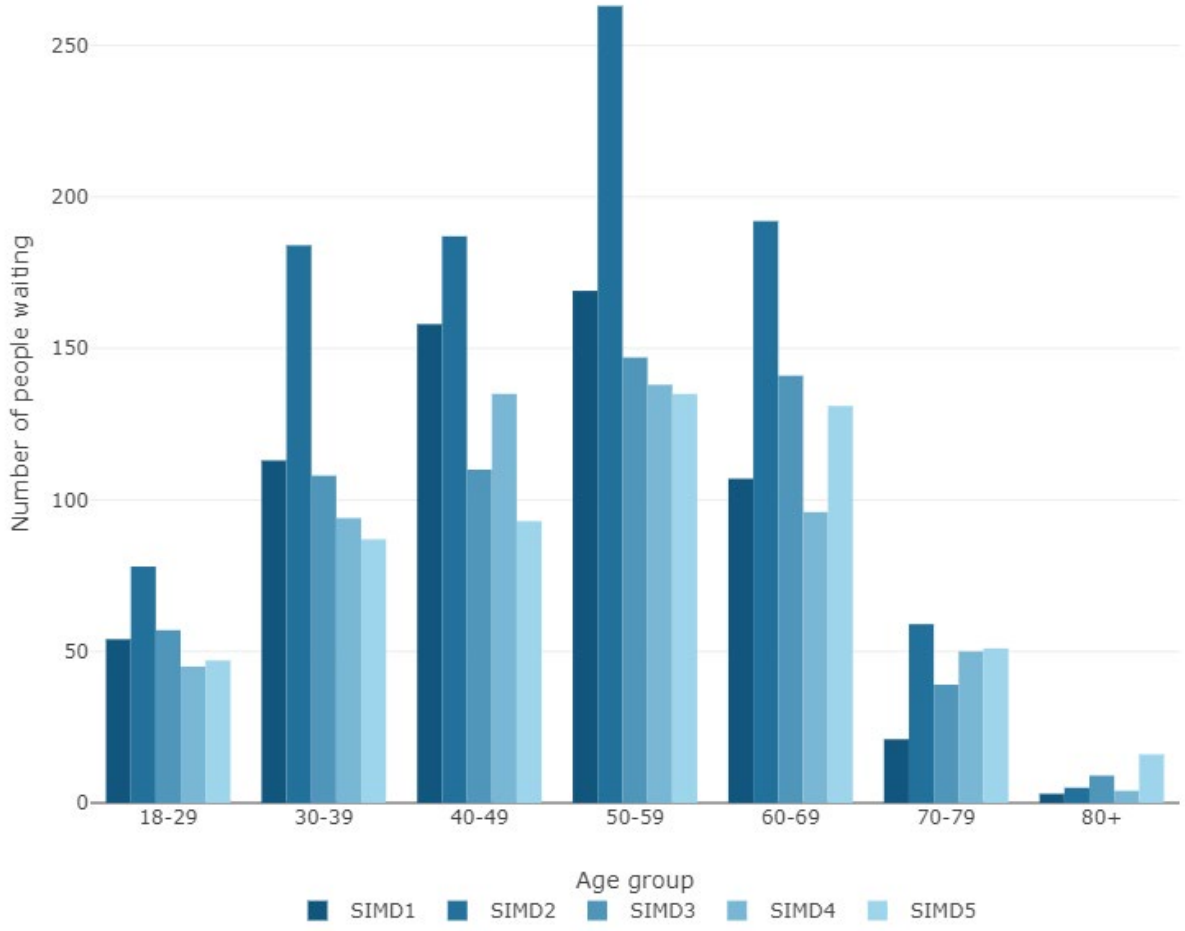


Figure 8 presents the proportion of each SIMD decile that are currently on the Tier 3 dietetics waiting list and highlights that service demand is unequally distributed amongst Lothian's population with nearly 1% of those living in the most deprived areas being on a tier 3dietetics waiting list (around 5 times the proportion in the least deprived areas).

Figure 9 presents the number of individuals on the Tier 3 dietetics waiting list, by age and SIMD quintile. As this figure presents the absolute number of people waiting, and not percentage, it reflects the underlying demographic distribution of Lothian. However, despite Lothian having disproportionately fewer individuals living in Scotland's most deprived areas, the absolute number of people waiting in the most deprived 40% (SIMD quintiles 1 ad 2) remains where the largest burden on Tier 3 dietetics services is observed.

Figure 9. Number of Lothian population on Tier 3 Dietetics Waiting list (by age and SIMD quintile)



Potentially Preventable Winter Admissions

Public Health Scotland provide information to support acute services through the Discovery platform, based on SMR01 data. Potentially Preventable Admissions are defined as 19 condition groups (by individual ICD-10 codes), see Table 3 for a list of these condition groups. Figures 10 to 14 present winter (December to February) pressures in NHS Lothian over the past 5 years for these specific conditions.

Table 3. Condition groupings defined as “potentially preventable”

Condition Group
Ear, nose and throat infections
Dental conditions
Convulsions and epilepsy
Gangrene
Nutritional deficiencies
Dehydration and gastroenteritis
Pyelonephritis (kidney infection)
Perforated bleeding ulcer
Cellulitis
Pelvic inflammatory disease
Influenza and pneumonia
Other vaccine preventable disease
Iron deficiency anaemia
Asthma
Diabetes complications
Hypertension
Angina
COPD
Congestive heart failure

Figure 10 demonstrates the proportion of emergency attendances that were diagnosed with a potentially preventable condition. This figure highlights that the number, and proportion, of attendances due to preventable conditions has been increasing since 2019/20 and contributed to 8.3% of all attendances in 2022/23; almost returning to pre-pandemic levels (9.2% in 2018/19). Similarly, Figure 11 shows that the mean length of stay for admissions defined as potentially preventable is increasing over time.

Figure 10.

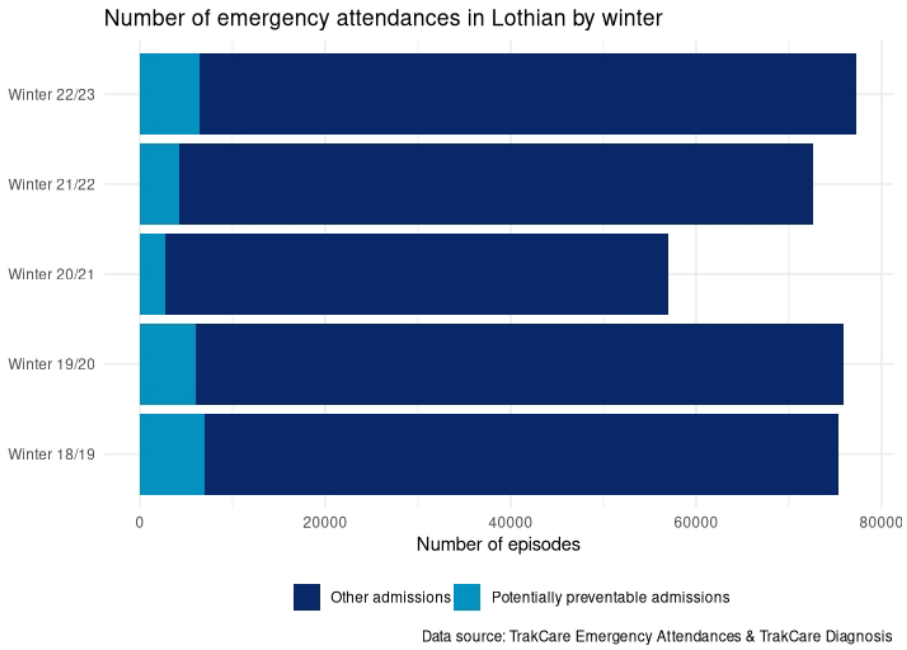
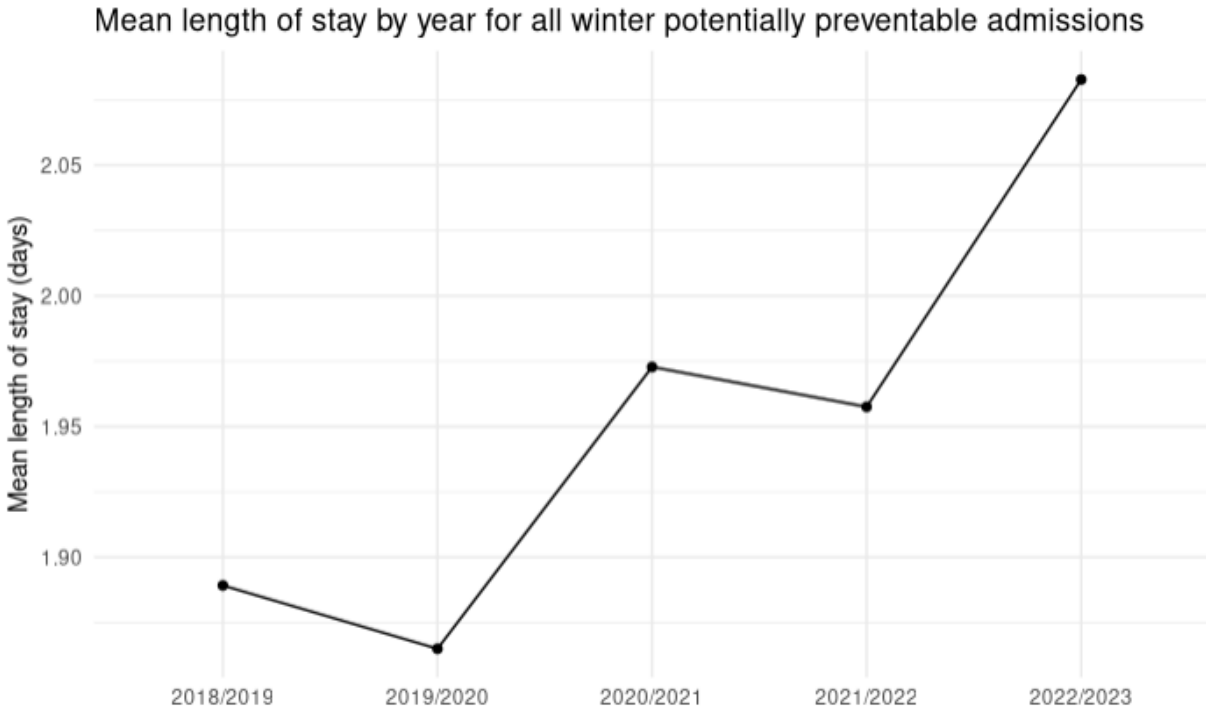


Figure 11



NB outliers (length of stay greater than 8.5 days) are removed from this figure.

Figure 12 shows the number of admissions with stays over 3 days for potentially preventable conditions, in the last 5 years. The conditions are broadly similar over the last five years and the effect of the pandemic can be seen in reducing longer admissions. However, the number of longer stays due to influenza and pneumonia have increased from pre-pandemic levels.

Figure 12.

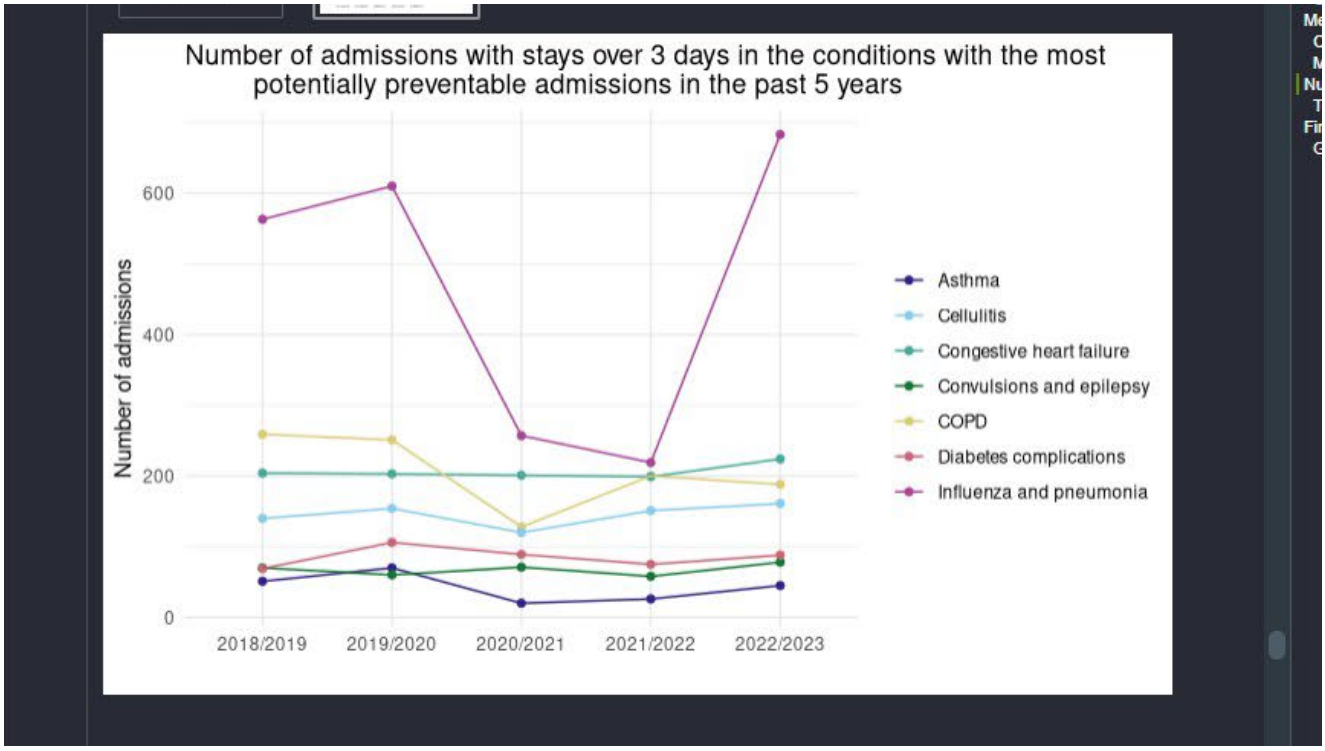
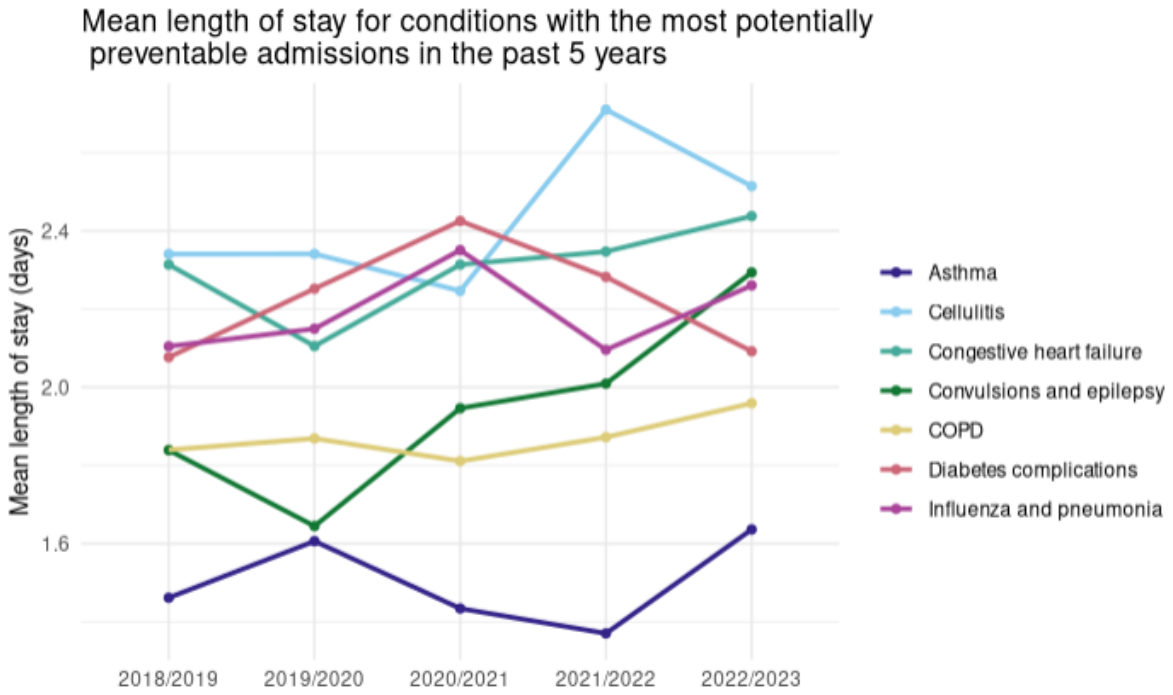


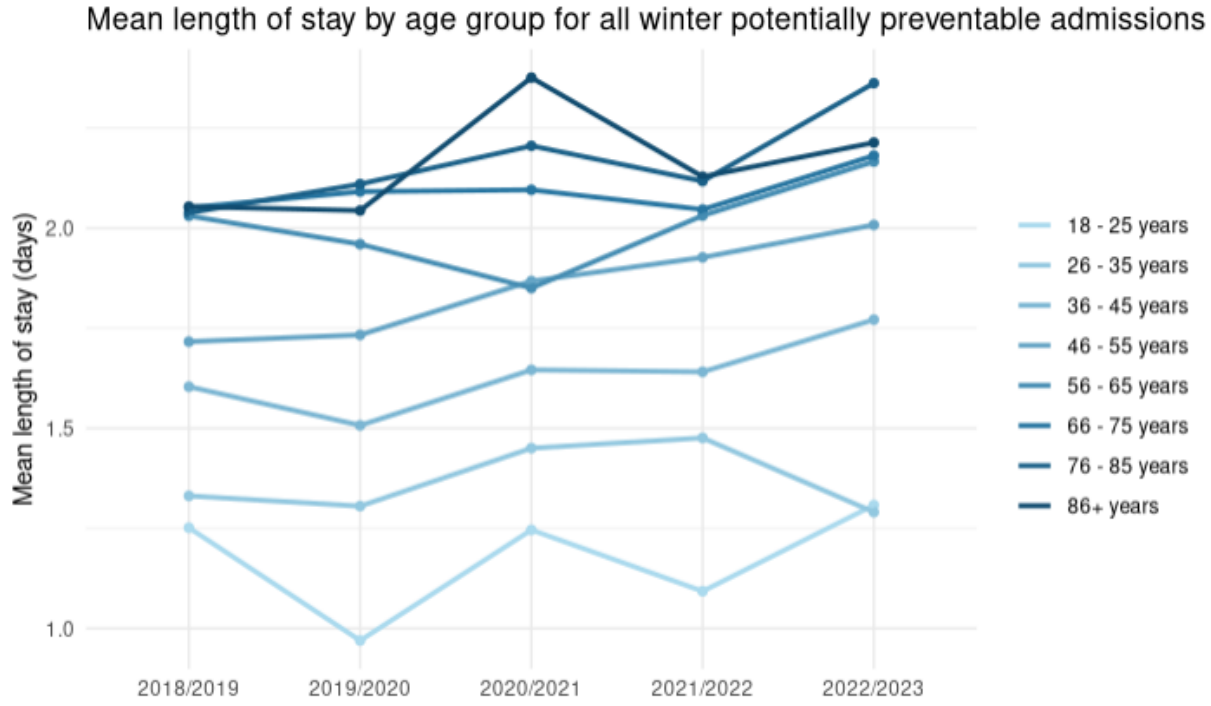
Figure 13 shows the mean length of stay for conditions with the highest number of potentially preventable admissions. The length of stay is increasing for all displayed conditions after the pandemic, particularly for convulsions and epilepsy. The mean length of stay is highest for congestive heart failure and cellulitis.

Figure 13.



NB outliers (length of stay greater than 8.5 days) are removed from this figure.

Figure 14.



NB outliers (length of stay greater than 8.5 days) are removed from this figure.

Figure 14 highlights both that older patients are likely to have longer stays, and that for each age group the general trend over time is towards an increasing length of stay for potentially preventable admissions during winter months.

Appendix 3 – Embedding Prevention: Recommended actions for the health and care system

Social determinants of health	
Access to money and resources	**Action**
There is a strong relationship between money, income and wealth, and health outcomes. Taking action to reduce poverty and maximise incomes reduces financial stress and provides people with a standard of living that protects and promotes their health.	• Reduce stigma surrounding issues of financial wellbeing, to ensure that all frontline staff feel comfortable asking service users about financial wellbeing and knowledgeable to signpost or refer to relevant sources of support. • Invest to ensure there is good access to specialist welfare and debt advice across Lothian, including in locations that are easily accessible to those with high levels of need, such as schools, community venues, and primary care practices as well as acute health settings. • Ensure that where crisis support is offered (including support with access to emergency food) this is linked to longer term support to reduce the chance of that individual or family remaining in or returning to crisis. • Develop and embed referral pathways so that those in greatest need of support can be linked to it, rather than expecting them to navigate a complex system to access available resources.
Access to and maintenance of employment	**Action**
Employment can have a significant influence on health and wellbeing. In addition to providing sufficient income and social connections, work quality and job security are also important factors which influence health and wellbeing.	• Support local people from diverse backgrounds to access careers in health and social care, including through specific volunteering and training opportunities and employability programmes. • Support changes to our recruitment system to attract and support applicants from a wider range of backgrounds. • Support people from a range of backgrounds and a range of needs including disability and caring responsibilities to remain in employment through the use of reasonable adjustments. • Ensure that our local commissioning contributes to community benefits, including increased local employment.

	• Recognise the importance of childcare, housing and other factors as a determinant of people's ability to access and remain in employment, consider actions to improve this, including potential availability of land and assets for housing and childcare provision as well as potential joint recruitment to roles such as childcare and construction that are needed to enable more local people to work in health and social care.
Housing	**Action**

Secure, quality and affordable housing is a vital building block for physical and mental health and wellbeing. Spending a high proportion of household income on housing leaves less for other essentials such as food and energy costs. Action on improving housing stability and security, and preventing homelessness, can have a significant positive impact on people's lives.	• Recognise the importance of affordable, quality and stable home environments, work with community planning partners to
	  ○ advocate for an increase in the proportion of housing available for social rent
	  ○ identify partnership opportunities where NHS land and assets might contribute to provision of quality, affordable home building programmes, where disposal of land can both support housing and achieve income for NHS Lothian.
	• In conjunction with area 1, above, ensure that frontline staff feel comfortable and knowledgeable to 'ask and act' in line with the forthcoming homelessness prevention duty, to identify and refer for support service users at potential risk of homelessness.
	• Improve preventative discharge planning to reduce the number of people who spend longer in hospital than required because of a lack of timely availability of suitable (including adapted) housing.
	• Use population and disease projections to influence the design and development of future housing supply that will meet the needs of an aging population to enable them to live independently for longer.

Transport	**Action**
Transport provides opportunities for active travel which has a direct positive impact on health. It can also be associated with negative effects such as air pollution. Transport supports	• Recognise the impact that affordable, healthy transport has on individuals' ability to stay healthy and access a range of local services (including health services) and ensuring that we design services to be located close to where people live, or be digitally inclusive, to reduce the

other building blocks of health, by providing access to public services and employment.	need for people to travel, as well as working with local authority colleagues to ensure sustainable transport options are provided and promoted in relation to access to our service. • Recognise the impact that unsustainable travel behaviours can have on others' health, including through air and noise pollution and road danger (which can therefore decrease participation in active travel) as well as wider impacts on greenhouse gas emissions and climate change and commit to reduce the proportion of staff who travel by unsustainable means. • Consider the transport impact of the goods and services we procure.
Neighbourhood and surroundings	**Action**
The environment in which people live can have a significant impact on health and health inequalities. Acting on, and increasing community resilience to, climate change can protect people from the effects of severe weather, infectious disease and other health impacts of climate changes. Working to address the commercial determinants of health can reduce the availability, accessibility and affordability of health-harming products such as alcohol, tobacco and food and drinks high in fat, sugar and salt. Local planning policy, and considering use of land and assets, can provide opportunities to improve population health, for example by increasing access to greenspace.	• Recognise that the environments in which we live have a significant impact on our health and that the greatest emerging threat to heath and health inequalities is climate change and taking action, in line with the NHS Scotland Climate Emergency and Sustainability Strategy, to o reduce the greenhouse gas emissions associated with the provision of and access to health and care services, and o support the resilience of our communities, services and estate against extreme weather, infectious disease and other health impacts of climate change. • Recognise the commercial determinants of health and taking action to influence national policy in relation to alcohol, tobacco, gambling and food high in sugar salt and fat, as well as reducing local exposure to harmful commodities by influencing licensing, advertising, and implementing other policies such as Smoke Free Places and Good Food Nation. • Taking local action to influence the built environment, including by influencing Local Development Plans and considering the way we use our own land and assets to support people to live healthy lives.
Family, friends and community	**Action**

Social relationships are important for health and wellbeing, and can reduce loneliness, reduce stress responses and influence healthy behaviours. Connecting with people in local communities and feeling safe can also influence health.	• Ensure that through Community Planning Partnership work we invest in the development of resilient communities, both place-based and communities of interest, including ensuring that physical and digital spaces and other community resources are available to support residents to interact, support each other and live well, and that staff promote the use of these resources as part of people's care. • Ensure that as part of Realistic Medicine, individuals who use health and care services are, where appropriate, invited and supported to include their friends, family and communities in developing a personalised approach to living well and having their health and care needs met. • Ensure that, in line with Scotland's commitment to trauma informed practice, we develop and deliver services in a way that supports our service users and staff to have good conversations and safe relationships, as a key part of patient centred care.

Maternal, children and young people's health	
Child poverty	**Action**
Prevention of child poverty will improve the health of children and families and reduce health inequalities. In implementing the Anchor Institution approach particular focus should be on ensuring that reducing child poverty and action on priority families (those most at risk of poverty) continues to be a priority for the Lothian health and care system. This should be part of an ongoing commitment to support Local Child Poverty Action Reports.	• Prioritise child poverty at senior level and include explicitly in strategic plans. • Ensure reducing child poverty across priority groups is a priority outcome in anchor institution activity. • Embed financial wellbeing pathways for pregnant women and families with children. • Increase awareness and understanding across frontline health and social care staff, including how to act on child poverty in their roles. • Continuing to influence in the partnership space to ensure prevention of poverty is a priority across community planning activity.
Long-acting reversible contraception	**Action**

Optimising access to contraception services is an important action that health boards can take to support the prevention of unintended pregnancy and reduce the associated personal and economic costs. LARC is the most effective form of contraception. There was almost a five-fold increase in abortion rates in Scotland between 2021 and 2022. Long-acting reversible contraception (LARC) prescription rates fell by more than 40% in 2020 and have not yet fully recovered. Rates of abortion rose in most age groups and all SIMD quintiles, although they are highest in the most deprived areas. Ensuring accessibility of LARC services are proportionate to need will contribute to reduced inequalities in unintended pregnancy rates. The cost of early medical abortion at home and early surgical abortion is 2.5 and 4 times as much, respectively, as LARC.[i] Health board areas with higher uptakes of LARC generally have lower abortion rates. Increased provision of LARC would be expected to lead to savings in the provision of abortion services. A UK economic analysis showed that for a population of 1000 women, initiation of LARC (even if not continued for five years) prevents on average an additional 47 unintended pregnancies per year at an annual net cost saving of over £51,000 compared with use of the combined oral contraceptive pill.[ii]	In Lothian, LARC is largely delivered in primary care, where a significant number of General Practitioners and Nurse Practitioners have been trained to fit LARC, and a Local Enhanced Service (LES) is in place. There are challenges with the current LES arrangements including increasing demand, a reduction in the number of trained practitioners who can fit LARC and accessing training. The challenges in primary care have a knock-on impact on Lothian Sexual Health Services, whereby increasing capacity to provide LARC could impact other services or reduce capacity to provide training to other practitioners. • LARC uptake is determined by both patient preference and accessibility. NHS Lothian should take action to improve and ensure equity of access to LARC to optimise the prevention of unintended pregnancy.
Smoking in pregnancy	**Action**
Smoking is a major risk factor for still-births, premature births, low birthweight and other negative maternal and child health outcomes. Reducing smoking prevalence among pregnant women has the potential for significant population health	During 2024-25, enhanced maternity smoking cessation support will be available for patients via all community midwifery teams in Lothian. Quit Your Way staff in Lothian have undertaken specialist training and all referrals from maternity services will be prioritised for support by practitioners.

benefit. In Lothian, however, the number of pregnant women trying to quit is lower than the average for Scotland and successful quit rates are the lowest in Scotland.[iii] It is essential that staff working in antenatal and postnatal settings are aware of the specialist support available to help pregnant women (and other members of their household) stop smoking.	Midwifery teams need to be supported to: • Complete the short training module developed to support referral to Quit Your Way. • Record CO monitoring results during the antenatal booking appointment so that there is an accurate record of smoking status. • Make referrals to smoking cessation support for women who express a desire to quit.
Perinatal, infant, children and young people's mental health and wellbeing	**Action**
Perinatal mental health problems affect at least 1 in 5 women. One in 20 will experience severe or complex issues requiring specialist care. Undetected and untreated, perinatal mental health problems can have a devastating effect on women, their babies, and the wider family network. Rates of maternal suicide are high, and it remains a leading cause of death during the perinatal period. The financial cost is significant; in 2014, untreated perinatal mental health problems were calculated to cost the UK up to £8.1 billion for each yearly group of births. Identifying and treating perinatal mental health problems early and effectively leads to considerably better outcomes for women, babies, and families and makes economic sense.[iv] Mothers with certain circumstances and characteristics are known to be at a higher risk of suffering mental illness during the perinatal period, including mothers from black and minority ethnic communities, young mothers, single mothers, and those experiencing domestic abuse, poverty and addiction. These circumstances and characteristics can also	• The Lothian health and care system should continue to invest in and support delivery of high-quality, population-based specialist mental health services, and the continued roll out of a Lothian-wide specialist infant mental health service, currently being piloted in two geographical areas (South Edinburgh and Midlothian). • The perinatal and infant mental health training programme should be embedded in agreed staff and service training plans. This includes a sustainable Solihull Approach, with a viable trainer cohort, rolling training programme and an embedded approach to use. • Establish Single Points of Access in each of the four partnership areas to ensure children and young people have timely access to appropriate emotional, mental health, and wellbeing support. • Ensure professionals are appropriately trained and equipped to deliver services in a trauma-informed way. • Continue to focus on prevention activity through Children's Services Partnership structures, including work to address child poverty.

act as barriers to accessing the care these women need, because of discrimination, stigma and isolation. Improving the mental health and wellbeing of children and young people should be seen within the context of wider social inequalities and the families and communities in which children live. Some young people are more likely to experience mental health problems, including but not limited to, children born into poverty, those who experience adversity in childhood, those who have a chronic health condition or learning disability, and those who are care experienced.[v] Good mental health support at an early age can protect and promote future mental wellbeing and resilience. Half of adult mental health problems start before the age of 14 and 75% start before the age of 24.[vi] Nationally, data from the Health Behaviour in School-aged Children Study highlight continued deterioration of young people's mental health and wellbeing. These downward trends for 11–15-year-olds have been evident since approximately 2010, and as of 2022, the levels of self-reported confidence and happiness (for girls) are the lowest observed in nearly 30 years.[vii]	
Infant feeding	**Action**
Increasing breastfeeding duration supports both the family and the NHS. Research has shown, if 45% of babies were exclusively breastfed for 4 months and 75% of neonatal babies were breastfed on discharge, then GP consultations and hospital admissions could be reduced, as follows:	• The Maternal and Infant Nutrition service should continue to support breastfeeding initiation and continuation. • The Lothian health and care system should achieve UNICEF Baby Friendly Initiative Sustainability by working with Baby Friendly Guardians. • The Lothian health and care system should ensure all its premises are Breastfeeding Friendly.

• Gastroenteritis - 10,000 fewer GP consultations and 3000 hospital admissions saving £3.6 million. • Respiratory - 22,000 fewer GP consultations and 6000 hospital admission saving £6.7million. • Ear infections - 21,000 fewer GP consultations saving £750,000. • NEC - 361 fewer cases, saving £6million. • Increasing breastfeeding supports could reduce childhood obesity by 5% saving £1.6million. • Increasing breastfeeding rates also supports mothers. If half the mothers who currently aren't breastfeeding were supported to do so, breast cancer rates would be reduced saving £21 million.[viii]	• The Maternal and Infant Nutrition service should sustain, and explore how it can expand, the Delivering Early Breastfeeding Support project in areas where breastfeeding drop off rates are higher. • The Maternal and Infant Nutrition service should continue to deliver and expand the HENRY programme, designed to increase staff knowledge, confidence and skills on health, exercise and family nutrition when working with families with young children in the most deprived areas.
Child development	**Action**
Early child development is influenced by both biological and environmental factors. Problems with early child development are important as they are strongly associated with long-term health, educational, and wider social difficulties. Detecting developmental problems early provides the best opportunity to support children and families to improve outcomes. There is good evidence that parenting support and enriched early learning opportunities can improve outcomes for children with, or at risk of, developmental delay. Child health, development and wellbeing is supported from pre-birth to pre-school through GIRFEC principles and strengths-based approaches, the Universal Health Visiting Pathway, Family Nurse Partnership, early learning and childcare, and multiagency family support services. Early identification of developmental concerns (such as speech,	• Continue work to maximise coverage of the Universal Health Visiting Pathway, ensuring anticipatory care is delivered based on need using developmental concerns aggregated data, resulting in improved outcomes for the most deprived families. • Consider what further action is required to embed a whole system approach to speech, language and communication development, to ensure children's early language development can be supported and improved.

language and communication skills or emotional and behavioural development) allows practitioners to target interventions and support transitions to early learning and school in those who need it most, to reduce inequalities in early years development and future educational outcomes. Covid-19 containment measures have widened inequalities in early years development and educational attainment. Prior to 2019/20, positive progress had been observed across Lothian with reductions in the proportion of 27–30-month reviews identifying developmental concerns (from 18% of reviews in Lothian in 2013/14 down to 11% in 2018/19). From 2019/20 onwards, however, this progress stalled with slight increases across Lothian in the proportion of reviews identifying developmental concerns to over 13% in 2021/22. For each local authority area, developmental concerns pertaining to speech and language are most frequently identified, with the highest rate in West Lothian at 14%. There is a steep socioeconomic gradient in developmental concerns, particularly for speech and language development, with 16% of those living in the most deprived areas (SIMD 1) having a speech and language concern raised, compared to 5% in the least deprived areas (SIMD 10).	

Tackling modifiable risk factors and the future burden of disease	
Hospital-based income maximisation services	**Action**
The effectiveness of providing welfare rights advice in NHS settings is well documented.[ix] Patients' income problems can have significant impacts on the health and care system in the following ways:	• All NHS staff should be aware of the option to refer patients to income maximisation services. The staff team can meet with clinical teams to discuss how the service can be used.

• Delayed discharges relating to welfare issues may continue to block beds unnecessarily. • Clinical staff time may be spent trying to address welfare issues with patients. • The stress of these practical issues may increase recovery time or be the root cause of readmission to hospital. • Staff mental health and absence levels may increase as a result of debt issues or benefit worries, both for themselves or having to support patients whilst also completing their clinical work. As part of the NHS Lothian Anchor Institution commitment, the NHS Lothian Charity has committed to five years funding for income maximisation services based at six Lothian hospitals (Royal Infirmary of Edinburgh, Royal Hospital for Children and Young People, Western General Hospital, St John's Hospital, East Lothian Community Hospital, Midlothian Community Hospital). A new service model has been developed which means these hospitals have an on-site service which patients, their families, and NHS staff can access for support and advice on a range of topics including benefit claims, personal finances, housing, council tax, immigration, employment and debt. To ensure consistency and high-quality services, the organisations which provide the service are welfare advice specialists and all of them are required to meet the national standards for advice providers.	• Investigate how the service might be extended to support other priority patient groups, most notably patients in mental health settings and community paediatric services.
Smoking cessation	**Action**
Smoking increases the risks of cancers, heart disease, respiratory diseases, strokes and diabetes. Second hand smoke is also a health risk particularly for pregnant women	• Staff across Lothian should be encouraged to attend the 15-minute information sessions about the smoke free policy that the Tobacco Control team within public health can deliver.

and young children. In 2021, smoking accounted for an estimated 8,260 deaths (250 deaths per 100,000 population) in those aged 35 and over in Scotland.[x] Over 100,000 people were admitted to Scottish hospitals with smoking recorded as a primary or secondary cause of admission. Many smoking related illnesses, including Chronic Obstructive Pulmonary Disease (COPD), have long latency so that the impact of smoking is not apparent for decades. Smoking prevalence is significantly higher among adults than children and notably patterned by socioeconomic position. Tobacco consumption is an ongoing health inequality challenge as 24% of people living in the most deprived areas smoke compared with 5% in the less deprived areas.[xi] At the current rate, it is forecast that smoking prevalence rates in the most deprived section of society will be more than double the national target for a Tobacco Free Generation by 2034[xii] which is why Quit Your Way (smoking cessation) services will continue to target our resources and staff expertise at smokers who live in our most deprived communities. Referrals by health professionals of people who actively want to stop smoking have high chances of a successful quit, so ensuring pathways to smoking cessation are clear is key. The Lothian smoking cessation service provides access to specialist support for patients referred from primary care and acute settings. In recognition of the harm to babies from smoking, there is also a specialist cessation support for pregnant women. Denormalising smoking across the Lothian health and care estate is something that needs to happen.	• Corporate Management Team should continue to support action on the Smoke Free Policy which is co-ordinated by the Smoke Free Monitoring Group. • Ensuring that all staff are clear how to refer patients to smoking cessation support is imperative. There is a very brief training available from the Quit Your Way team to help all staff to understand how to make a referral. • Evidence also shows that smoking delays recovery from surgery. There is a further opportunity to enhance support for smoking cessation before people are admitted for planned surgery or healthcare procedures. This type of prevention work could be done in conjunction with developing work on prehabilitation.

Ensuring staff are aware of and adhere to the smoke free policy is the basis for this approach. If our staff smoke in healthcare settings, then we cannot expect patients, visitors and contractors not to smoke.	
Cardiovascular disease	**Action**
Cardiovascular disease caused the greatest burden of disease in NHS Lothian and across Scotland in the Scottish Burden of Disease study, 2019.[xiii] Ischaemic heart disease, which can lead to a heart attack, was responsible for 11.3% of all deaths in 2019, making it the disease with the biggest impact on mortality.[xiv] Prevention has a key role in tackling the health burden from cardiovascular disease. Risk factors for cardiovascular disease, including heart disease and stroke, include high blood pressure, atrial fibrillation, obesity, smoking, alcohol consumption and lack of physical activity. Diabetes is also a key risk factor for heart disease. An estimated 610,000 adults in Scotland don't know that they have high blood pressure. It is estimated that only 27% of adults with high blood pressure in Scotland have their blood pressure treated and controlled in line with the SIGN recommended level of 140/90mmHg.[xv] High impact interventions for cardiovascular disease, identified by NHS England, include community-based case finding for hypertension, high cholesterol and atrial fibrillation, as well as optimising treatment for these conditions.	• The Realistic Medicine Board and Public Health should continue to explore opportunities to strengthen preventative action across cardiovascular pathways, linking with colleagues in primary and secondary care to embed referral pathways for support to address risk factors, as well as considering health literacy and adherence to medication to optimise treatment of hypertension.
Type-2 diabetes	**Action**
Type 2 diabetes is affecting an increasing number of individuals, families and communities because of increasing levels of obesity and an ageing population. It also has an	• Public Health will continue to provide leadership on tackling the obesogenic environment and supporting the delivery of a Whole System Approach (WSA) to type-2 diabetes, working with stakeholders from

important impact on health and other services. Between 10 and 12% of NHS budgets is spent on diabetes[xvi]. This equates to around £240million of NHS Lothian's annual budget. However, type 2 diabetes is a condition that, for many people, could be prevented, or diagnosis delayed. Type 2 diabetes does not affect communities equally – it is more common in older people, men, lower socio-economic groups[xvii] and in certain ethnic groups. Obesity, the main modifiable risk factor for type 2 diabetes, is a complex issue and is rooted in inequalities. It is important to strike the right balance between individual and population approaches when planning actions to disrupt the current upward trajectory for type 2 diabetes. Historically, public health actions, such as those to tackle obesity, have focused on individual-level changes to diet and physical activity, rather than the upstream actions required to alter structural and environmental determinants of health. To focus purely on individual behaviour can widen inequalities and increase obesity-related stigma. Individual approaches should be seen as just one component of a whole system response that includes upstream initiatives to tackle 'obesogenic' environments. [xviii]	across the community planning partnership, to help to tackle the root causes of overweight and obesity[xix]. • Obesity is impacted by weight stigma. Public Health will facilitate the development of a programme on how to have positive conversations with families about weight and to avoid weight bias. • Midlothian HSCP should improve the effectiveness and efficiency of child and adult weight management programmes across the obesity pathway, which are accessible to local populations and robustly evaluated. • Community Planning Partnerships should continue to take a whole system approach to active travel, physical activity and use of green space. • Women who experience gestational diabetes, and the services supporting them, should work together to improve outcomes for women and their families. Diabetes, maternity, health visiting, weight management, E-health, income maximisation and other services can contribute to an improved pathway.
Immunisation	**Action**
Immunisation is the most cost-effective intervention for saving lives and improving the health of the population. Immunisations help protect the population against serious vaccine preventable illness, such as influenza, COVID-19, measles and pneumonia. Vaccination studies demonstrate	Public Health should: • Continue to provide leadership and governance to the immunisation programme. • Support strategic discussions to explore the development of a flexible skilled workforce, able to deliver immunisations across the lifespan.

effectiveness in reducing development of cervical cancer, GP consultations for influenza-like illness, swab positivity in primary care, laboratory confirmed hospitalisations and respiratory emergency department attendances. Work to improve local uptake rates across all vaccination programmes is an important preventative action. There has been a general decline in uptake of childhood vaccinations across all health boards in Scotland. In Lothian, at 5 years of age, uptake of the 4-in-1 booster vaccine (diphtheria, tetanus, whooping cough, polio) is 91.1% and the uptake for second dose of measles, mumps and rubella is 90.2%. Both have decreased from the previous year (92.4% and 91.9% respectively). Children from more deprived areas are less likely to be vaccinated than children in less deprived areas and this difference by deprivation has widened in 2023-24. In Winter 2023, Lothian's seasonal flu/COVID-19 vaccination campaign kicked off its third year of delivery to help protect people who are eligible for one or both vaccines. Whilst Lothian exceeded the national COVID-19 uptake comparator for most cohorts, uptake for the winter flu 2023 campaign was below pre-pandemic uptake levels.	• Engage with Public Health Scotland and other key stakeholders to influence national developments including data and digital (e-consent for parents and carers to streamline vaccine delivery in schools). • Understand public perceptions and identify the barriers to vaccination among parents and carers in relation to childhood vaccinations. • Continue concerted efforts to improve uptake and reduce inequalities working with our partners serving communities of faith, religion, ethnic minorities, for whom uptake is lower. • Support strengthened communications about the importance of vaccination, raising awareness with audiences including pregnant women and families with young children. The wider health and social care system should: • Explore a more joined-up prevention and vaccination offer, offering multiple vaccinations to the whole family where eligible e.g., opportunistic MMR and HPV catch up. Teams could offer wider health inputs and interventions including type-2 diabetes prevention, oral health, or mental health and wellbeing advice. • Make the best use of a wide range of health professionals able to administer vaccinations and make vaccination promotion the business of everyone working in health settings. Exploration of non-traditional workforce, possibly medical and nursing students, recently retired, sexual health or drug and alcohol service teams could have a greater role in immunisation delivery.
Screening	**Action**
National screening programmes are evidence based. Screening programmes involve the systematic offer of testing for populations or groups of apparently healthy people to identify individuals who may be at future risk of a particular medical condition or disease, or detect early indications of	• All parts of the system in Lothian with responsibility for delivery of screening programmes should continue to engage actively with local governance groups. • Public Health will continue to oversee the governance of screening programmes and monitor the quality of each part of the pathway.

disease or conditions with the aim of offering intervention to reduce their risk.[xx] There are six National Screening Programmes in the UK, each of which are planned, delivered and governed through an agreed set of UK wide standards – Abdominal Aortic Aneurysm, Bowel, Breast, Cervical, Pregnancy and Newborn, and Diabetic Eye Screening. Screening uptake needs to be maximised to ensure the programmes are effective and efficient, and to maximise population health gain. Each programme is required to meet the national standards. Performance thresholds have been established for all National Screening Programmes that cover each part of the screening pathway from invitation through to screening test performance and on to time to diagnostic assessment. The achievable threshold represents the level at which the screening service is likely to be running optimally. All screening services should aspire to attain and maintain performance at or above this level. Each National Screening Programme also has an agreed set of Key Performance Indicators though which it is monitored.	• Public Health have a key role in raising awareness about screening and addressing issues relating to uptake to maximise the opportunity for screening programme effectiveness, particularly in underserved groups. • Public Health will continue to work with partners to ensure the pathway is working efficiently to ensure those who require further investigation have access to timeous investigation and treatment.
Falls prevention	**Action**
Falls are estimated to cost the NHS more than £2.3bn per year. Morbidity from hip fracture contributes to the demand on health and social care services. Given the ageing population, this burden is likely to increase further over the coming years. Evidence shows that effective interventions for falls prevention include: multifactorial risk assessment and timely and evidence-based tailored interventions for those at high risk of falls; evidence based strength and balance	• The health and care system should develop a strategic approach to falls prevention in Lothian, which makes high level recommendations for implementation across the four HSCPs and other key stakeholders.

programmes and opportunities for those at low to moderate risk of falls; and home hazard assessment and improvement programmes.	

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