

Chronic Disease Intelligence to Optimise Service Planning in Scotland

Projected
Prevalence of Key
Long Term
Conditions in
Scotland
2014-2019

August 2017

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Foreword

This report and accompanying data-sets provide a key piece of intelligence to assist local planning for Long Term Conditions in Scotland and will be a useful resource for service commissioners and service planners alike.

It complements previous work in this area and provides a much sharper focus on the local impact of an aging population on services. This is done by examining specific disease prevalence in the context of demographic change projections for the next 15 years. The results are both informative and stark.

Using prevalence as a proxy for demand, this report quantifies the local operational challenges that the NHS faces in delivering disease specific services to patients with COPD, Heart Failure, Diabetes and Hypertension.

With perhaps the exception of Heart Failure in the female population, the demographic challenges commonly perceived as being 'in the future' have already arrived.

Urgent action is required if our services are to continue to cope with the projected rapid and sustained increases in the number of our citizens with these specific long-term conditions.

It is vital that our health system effectively meet the health and care needs of our changing population in Scotland. Therefore, availability of relevant disease intelligence in finding new and better ways to manage this 'rising tide' of demand at local, regional and national levels across Scotland is pertinent.

Significant focus is needed to reduce demand through more effective disease prevention and self-management, through appropriate use of technology to delay demand by slowing the progress of disease in citizens already affected and to release more time to care for professionals by working with citizens to manage their own conditions more effectively.

The Scottish Government has provided direction through its 2020 Vision and, more recently, through A National Clinical Strategy for Scotland 2016, and the Health and Social Care Delivery Plan 2016. These documents call for changes in the ways in which health and care services are delivered in Scotland.

This summary report and accompanying actionable data¹ provides a common reference point for local health and care organisations as they plan and deliver the necessary service transformation.

We trust that you will find this resource valuable for your work. We are also very keen to receive suggestions highlighting additional areas where the production of this kind of disease intelligence helps to support your work to improve health and care outcomes in Scotland.

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¹ <https://sctt.org.uk/programmes/home-and-mobile-monitoring/long-term-conditions/>

Introduction

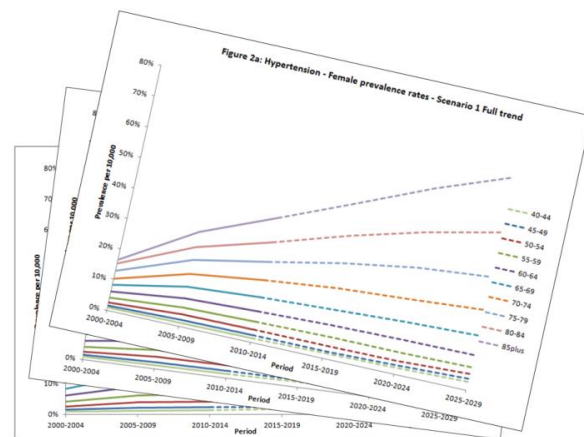
This document is aimed predominantly at health and care leaders in Scotland, strategic planning colleagues in health and social care partnerships and territorial health boards, clinicians and managers with responsibility for delivering long-term conditions services and colleagues with responsibility for service improvement.

It reports the findings of analytical work commissioned from NSS Information Services Division by the Scottish Centre for Telehealth and Telecare on behalf of the Scottish Government's Technology Enabled Care Programme (TEC)².

The original purpose for this analysis was to inform the development of a national service model for home and mobile health monitoring in Scotland and to support operational planning activities for local technology enabled care pathways.

Once completed it became clear that the resulting information could serve the wider interests of those involved in delivering health and care services in Scotland.

This is because the data suggests imminent, wide reaching challenges for health and care services arising from rapid and continuous increases in the prevalence of specific long-term conditions over a 15 year period.



Home and mobile health monitoring services will have a role in helping to manage this growth in demand as discussed in "*A National Service Model for Home and Mobile Health Monitoring*"³. However, they will not be the whole solution, and other interventions will be required to support the preservation of health and service standards for Scotland's citizens.

Changes in prevalence serve as a very strong indicator for changes in demand for services. Action is needed now to address the already 'rising tide' of need in Scotland's population.

Scope of the analysis

The analysis focussed on four specific conditions that currently generate the greatest proportion of chronic disease related demand for health services in Scotland. These are Chronic Obstructive Pulmonary Disease (COPD), Heart Failure, Diabetes and Hypertension.

² <https://sctt.org.uk/programmes/home-and-mobile-monitoring/long-term-conditions/>

³ <https://sctt.org.uk/programmes/home-and-mobile-monitoring/national-service-model-home-mobile-health-monitoring/>

The analyses for these conditions are quite detailed. Aggregated at a national level they provide projections of disease prevalence across three successive five-year time periods and are sub-divided into Male and Female prevalence and by age group. Both counts and rates per 10,000 population are provided.

The analyses are also provided by territorial health board area with the same details and again, with counts and rates per 10,000 population provided.

This report summarises these data and offers some informed observations.

Data sources and quality

The data sources for the analyses were :-

Data	Source
Population estimates and projections	National Records of Scotland
Mortality	National Records of Scotland
Diabetes	Scottish Diabetes Survey
COPD, Heart Failure and Hypertension	Secondary Care Data, SMR01 Linked Catalog

For prevalence predictions and populations data it should be noted that these are based on trends and do not take into account future changes in policy, economic conditions or any other factors that may have a direct impact on those trends.

This means that these projections are made on the assumption that nothing else changes and can therefore serve as a baseline reference point for planning purposes.

The SMR01 and SDS data have some limitations the effects of which are discussed in the technical report that accompanies the detailed projections. This includes the potential for underestimation in the prevalence projections for COPD and Hypertension.

It should also be noted that projected counts describe the average annual number of expected prevalent cases in each five year period.

Full descriptions of the definitions and methods used are outlined in the technical report.²

It is intended that this analysis will be revisited to update these projections as new data on population and disease prevalence becomes available. The first refresh will take place in 2019.

The major trends

The projections show sustained and significant growth in prevalence across the four long term conditions.

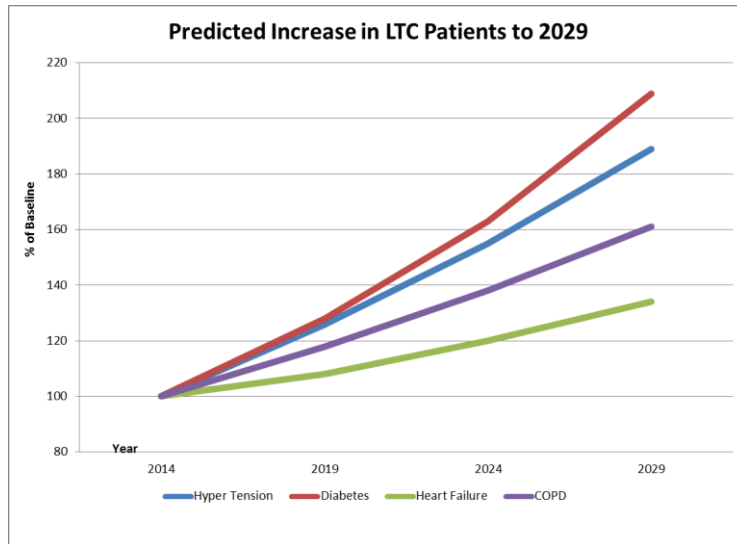


Figure 1

They also show that this growth is accelerating.

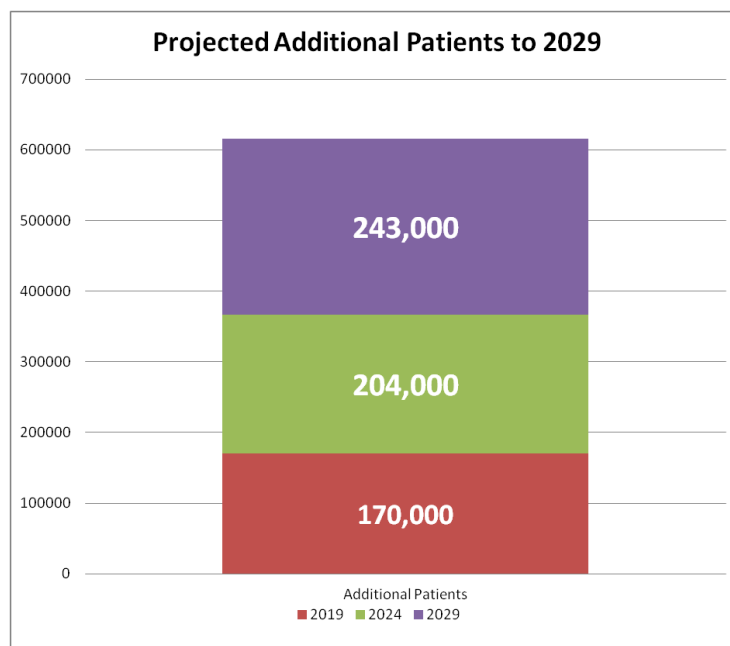
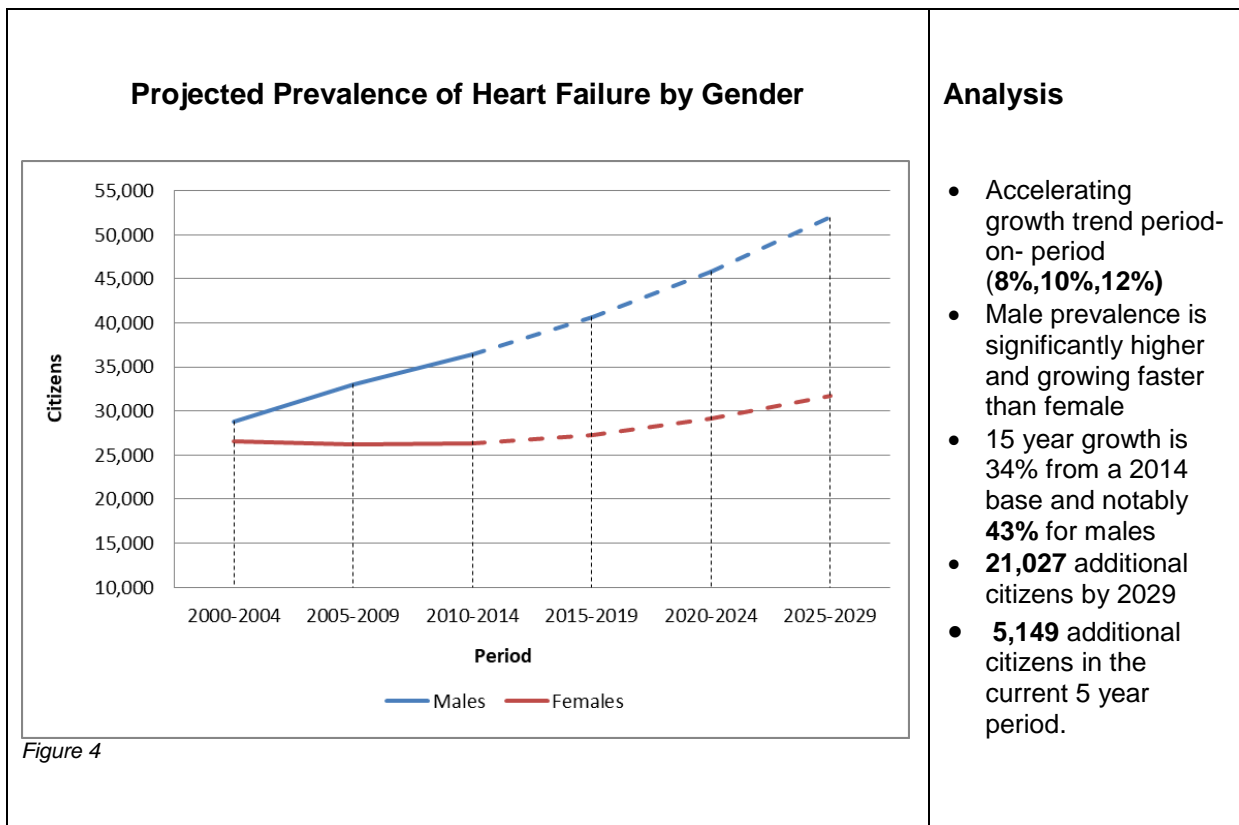
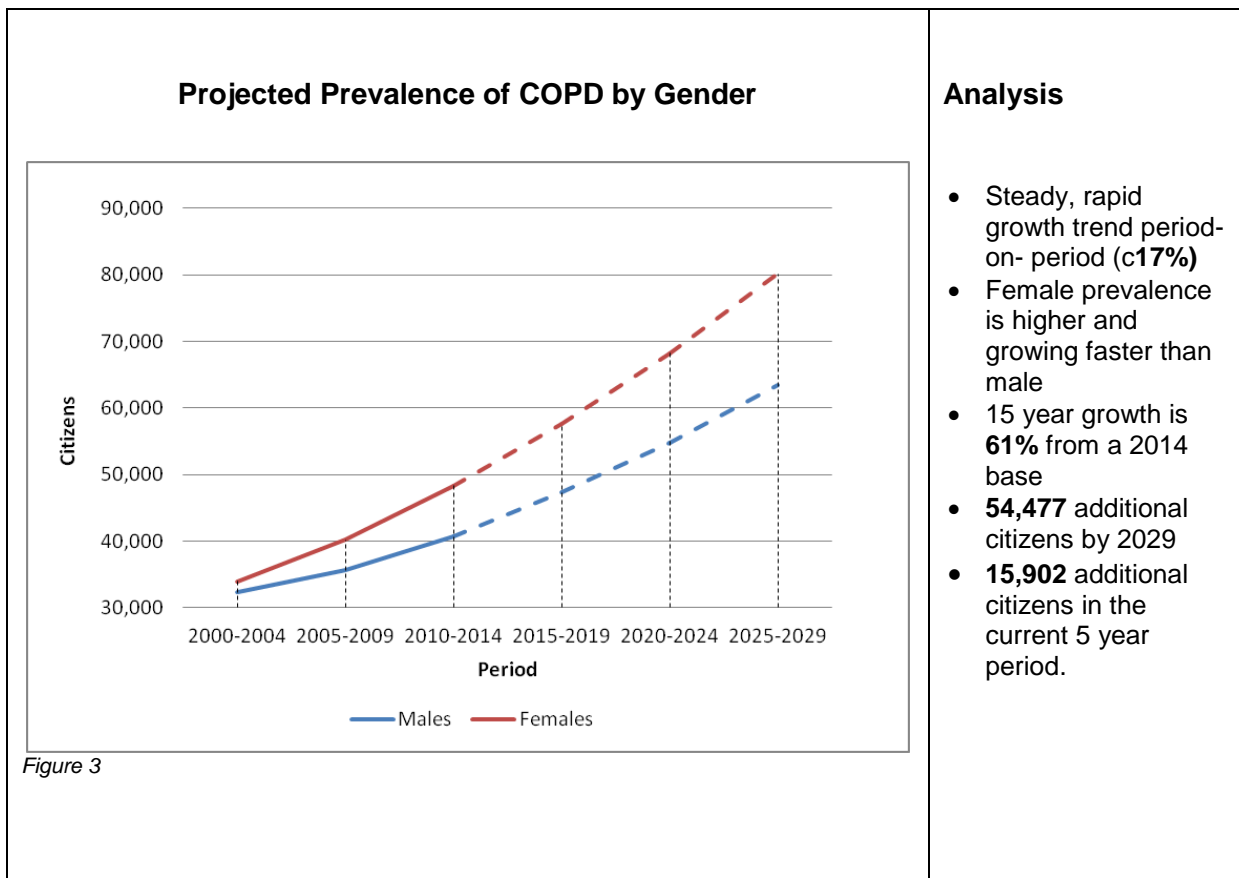


Figure 2 – 620,000 additional patients

Health and Care services in Scotland are delivered in a resource constrained environment. This means that, unless something changes, citizens will have to wait longer for treatment in the short-term and potentially wait much longer in the mid-term.

Disease specific projections & actionable intelligence



Projected Prevalence of Type 1 Diabetes

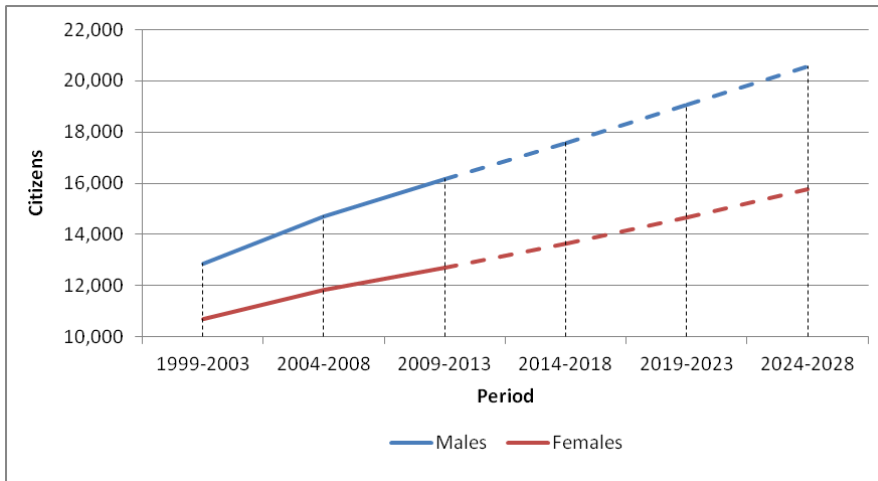


Figure 5

Analysis

- Steady growth trend period-on- period (**8%**)
- Male prevalence is higher than female
- 15 year growth is **26%** from a 2013 base
- **7,471** additional citizens by 2028
- **2,395** additional citizens in the current 5 year period.

Projected Prevalence of Type 2 Diabetes

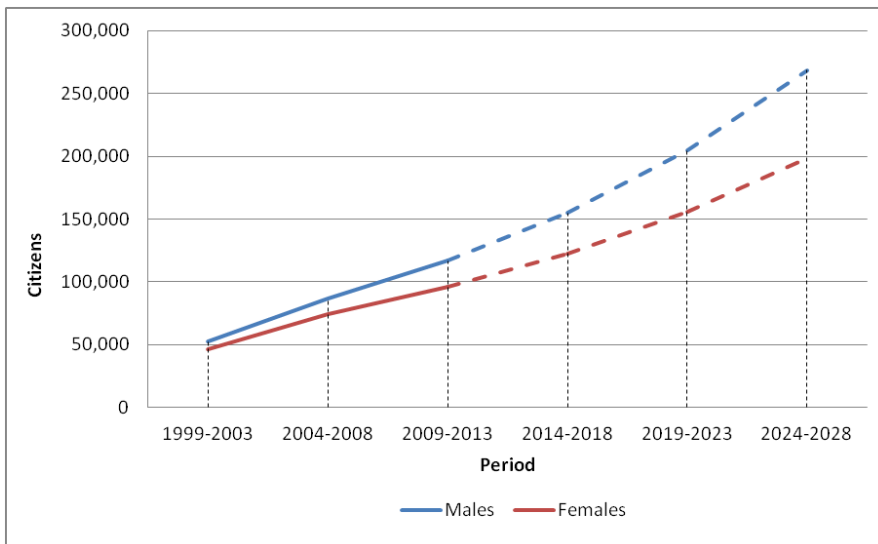


Figure 6

Analysis

- Steady rapid growth trend period-on- period (**30%**)
- Male prevalence is higher and growing faster than female
- 15 year growth is **120%** from a 2013 base and notably **130%** for males
- **254,723** additional citizens by 2028
- **64,775** additional citizens in the current 5 year period.

Projected Prevalence of Hypertension

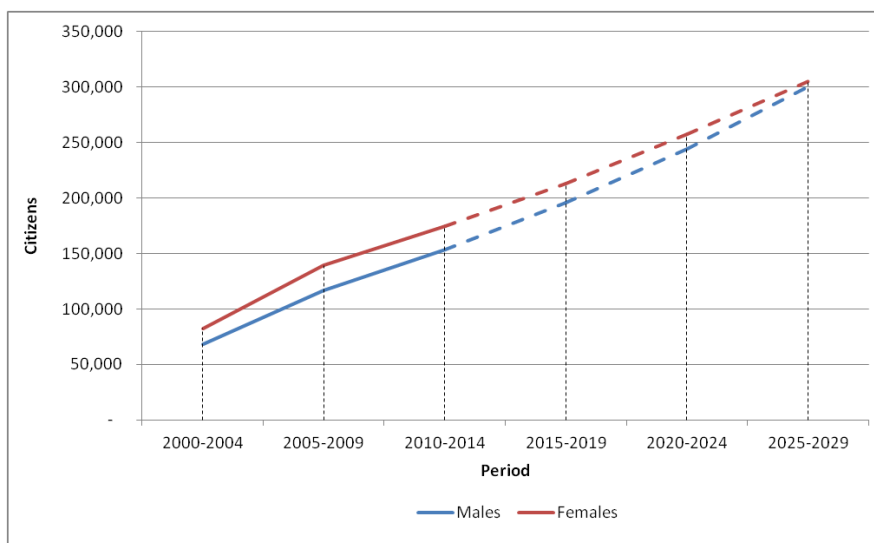


Figure 7

Analysis

- Rapid growth trend period-on- period showing slight deceleration (**25%, 22%, 20%**)
- Female prevalence is slightly higher than male
- Male prevalence is growing faster than female
- 15 year growth is **85%** from a 2014 base and **96%** for males
- **277,959** additional citizens by 2029
- **80,827** additional citizens in the current 5 year period.

Other observations

- Not all of the growth in prevalence can be attributed to an aging population. There are other factors to be identified as contributing to the underlying trend for COPD in females, Hypertension and Type 2 Diabetes and to explain the higher prevalence rates in younger cohorts for Heart Failure. The identification of these other factors is outside the scope of this report.
- There are significant differences in the projected prevalence of these conditions by gender. The most significant difference is observed in the projections for Heart Failure. The least significant difference is in the projections for Hypertension.
- Prevalence in males is higher in Heart Failure and Diabetes while prevalence in females is higher in COPD and Hypertension.

Disease projections by Territorial Board

These projections have been prepared to inform operational planning by Health Board area. Further localisation of the analyses is possible, but not the focus of this report.

COPD: Total Health Board prevalence by time period

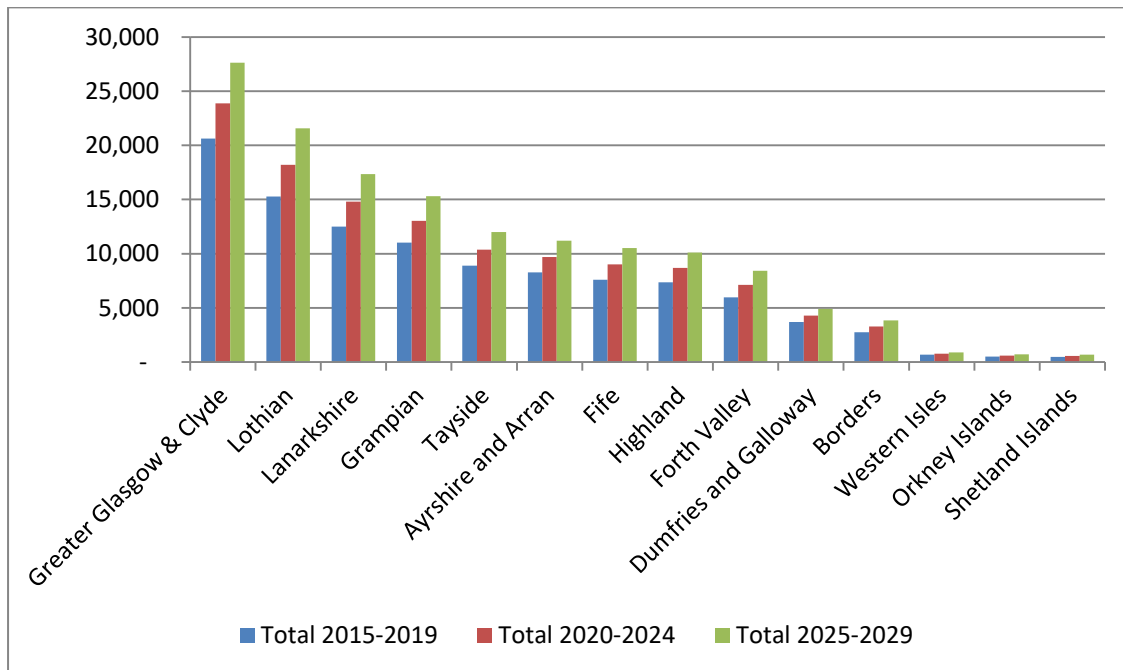


Figure 8

Heart Failure: Total Health Board prevalence by time period

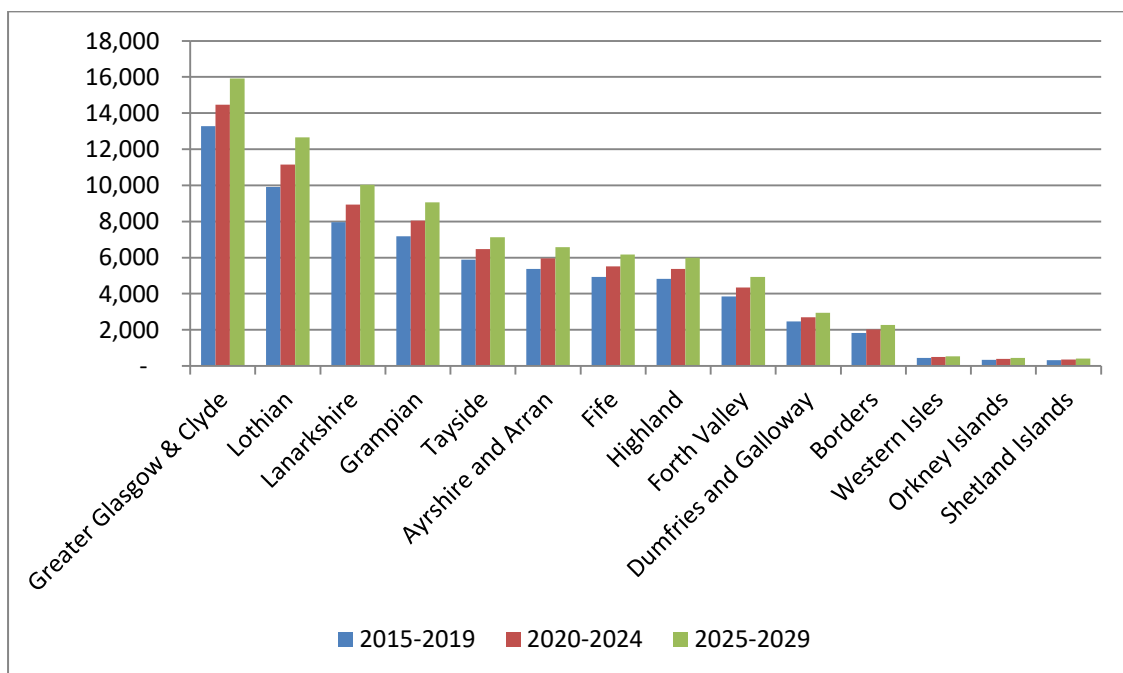


Figure 9

Type 1 Diabetes: Total Health Board prevalence by time period

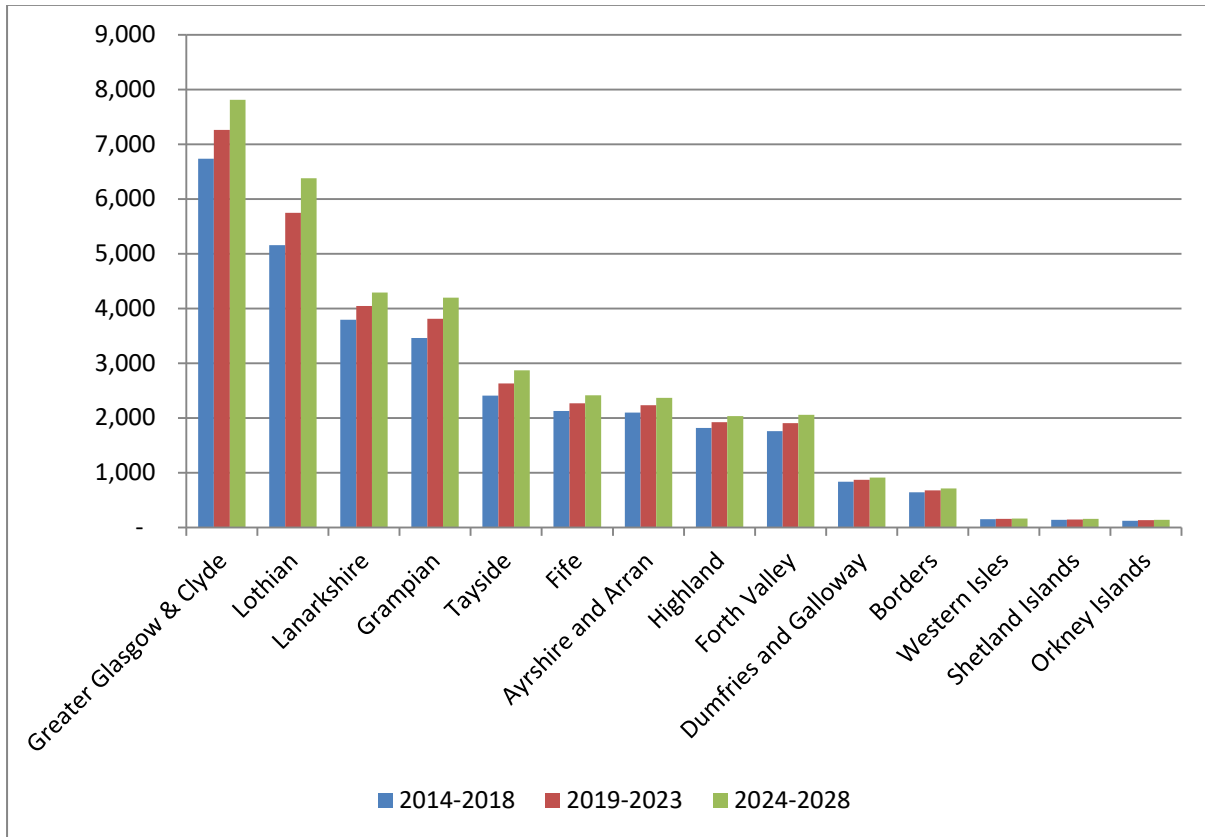


Figure 10

Type 2 Diabetes: Total Health Board prevalence by time period

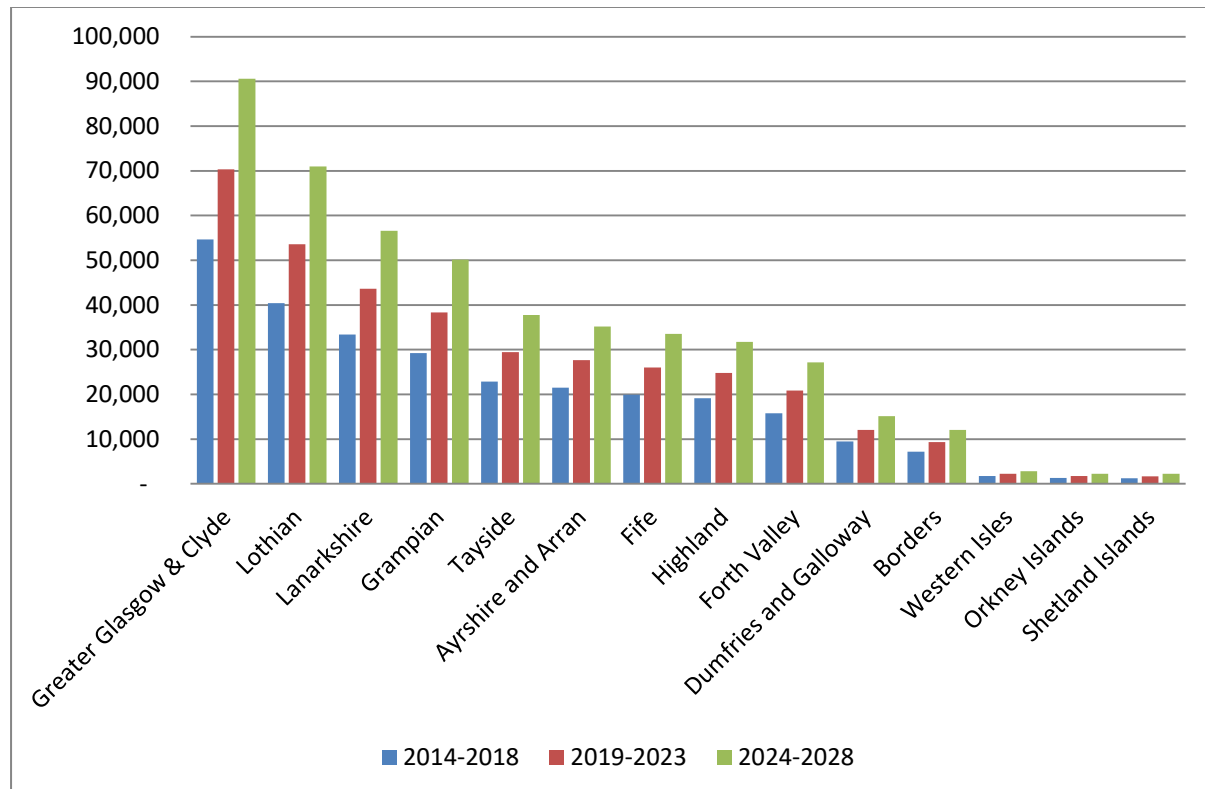


Figure 11

Hypertension: Total Health Board prevalence by time period

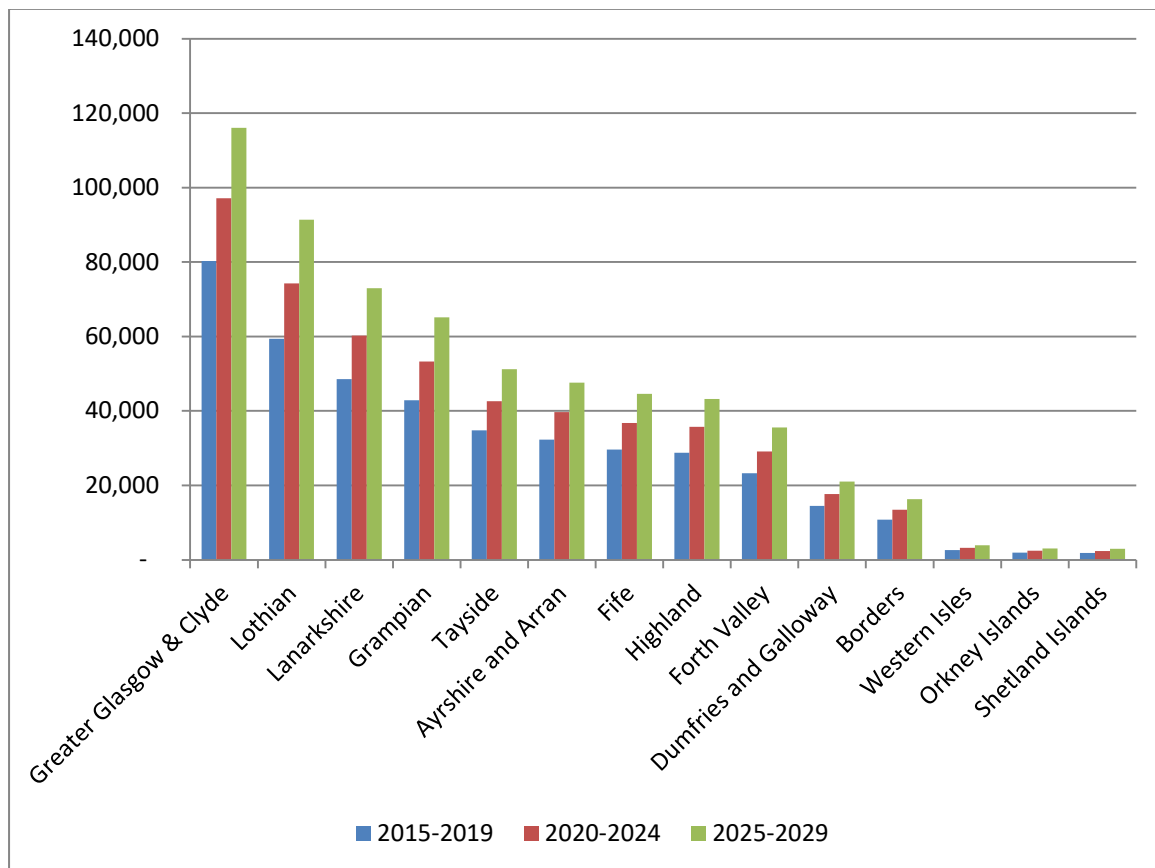


Figure 12

Note: The projected population totals slightly differ between National and local Health Board projections. This is due to NRS population projections being updated between the times where these analyses were performed.

Observations

For all territorial Health Board areas, the greatest increase in case volume is projected to come from increased counts first in Hypertension and second in Type 2 Diabetes (though this ranking is reversed for Greater Glasgow and Clyde by 2025-2029).

These two conditions account for 86% of the projected additional cases (45% and 41% respectively).

The remaining conditions contribute to the balance of 13% in the following order: Heart Failure (3%), COPD (9%) and Type 1 Diabetes (1%).

Conclusions

- These projections illustrate clear and significant effects when considering specific chronic conditions in the context of projected demographic changes in Scotland.
- They suggest a scale and rate of increasing demand for services that, if nothing else were to change, would quickly outstrip current service capacity and continue to do so for the full period of the forecast.
- Based on the time periods used, the effects of an 'ageing population' on the prevalence of these conditions appear to have already begun.
- Rapid action is called for if services are to adapt successfully to this accelerating growth in demand.
- The analyses emphasises the need to prioritise different approaches to the delivery of health and care, as proposed by key strategy documents.
- The analyses are a helpful reference resource for service commissioners and planners and should be included in any business change guidance to Health Boards, and Health & Social Care Partnerships about the adoption and scale up of Technology Enabled Care in general and Home and Mobile Health Monitoring services in particular.
- Although commissioned for the Technology Enabled Care Programme, these projections have a wider significance for Health and Care services in Scotland. They will be disseminated beyond the bounds of the programme so that others may have the opportunity to consider them in the context of their own work.

Further information

A suite of reports, national and board projection tables and resources are available for download at :

<https://sctt.org.uk/programmes/home-and-mobile-monitoring/long-term-conditions/>

<p>For information on Technology Enabled Care and Home and Mobile Health Monitoring contact :</p>	<p>Michelle Brogan, Service Development Manager, Scottish Centre for Telehealth and Telecare/ NHS 24</p> <p>michelle.brogan@nhs24.scot.nhs.uk</p>
<p>For technical information contact :</p>	<p>Richard Dobbie, Information Services Division, NHS National Services Scotland</p> <p>richard.dobbie@nhs.net</p>

To highlight *additional areas* where the production of this kind of disease intelligence would help to support your work to improve Health and Care outcomes, contact Professor Mahmood Adil, Information Services Division, NHS National Services Scotland mahmood.adil@nhs.net

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