APPENDIX 2

STRATEGIC FRAMEWORK FOR THE PREVENTION OF CARDIOVASCULAR DISEASE (CVD) 2015 - 19

STRATEGIC FRAMEWORK FOR THE PREVENTION OF CARDIOVASCULAR DISEASE (CVD

Introduction

1. The purpose of this report is to set out the future direction of the initiatives to prevent the impact of cardiovascular disease (CVD) in County Durham. The broader context includes the importance of CVD as a cause of ill health, disability and early deaths, the widening health inequalities due to CVD and the opportunities to address these challenges with the transfer of public health responsibilities from the NHS to Durham County Council.

2. The aim of this document is to set out a framework for the prevention of CVD, through an integrated approach to the reduction of modifiable risk factors, through evidence-based interventions at three different levels - **population, community** and an **individual** level.

3. The time frame for the strategic framework is 5 years from implementation of the action plan. This is consistent with the recommendation in NICE guidance that a good practice principle for such a programme is to ensure that it is sustainable for a minimum of 5 years.

Context

4. Cardiovascular diseases (CVD) are diseases of the heart (cardio) or blood vessels (vascular). The underlying cause of most cardiovascular disease is the build-up of atheroma – fatty deposits lining the arteries – which can narrow the arteries or clause a blood clot (local thrombosis). Atheroma can contribute to a range of conditions including:
    - Heart disease – including myocardial infarction (heart attack), angina and chronic heart failure
    - Cerebrovascular disease – stroke and transient ischemic attack (TIA)
    - Peripheral arterial disease.

   Heart disease accounts for about half of all deaths from CVD.

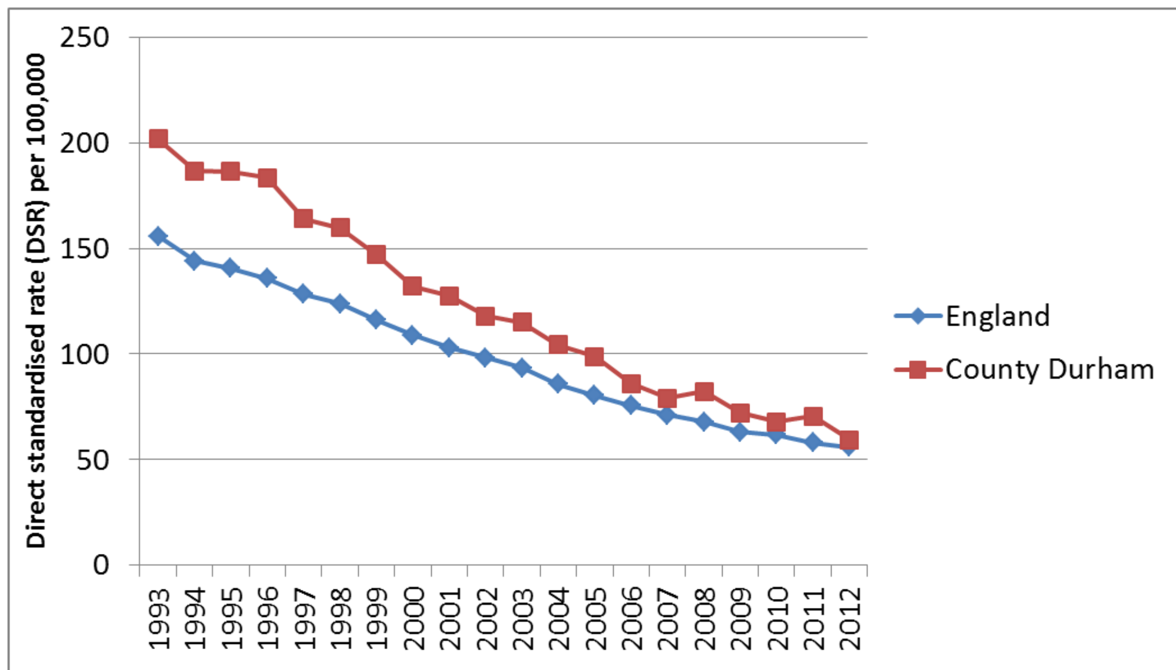
5. Although this framework is focused on the prevention of CVD, the overall approach and specific evidence-based interventions will also help to prevent other non-communicable diseases, including T2D, chronic kidney disease, chronic obstructive pulmonary disease and some cancers.

6. A population based approach to the prevention of CVD needs to impact on all ages. For example, reduced foetal growth (before birth) is linked with CVD in later life. However, in order to estimate the population impact of the strategy, the scope of this framework is limited to those aged 16 and over, with a greater emphasis on those aged 40 and over, based on the available evidence.

7. CVD is the second largest cause of death in the UK. In County Durham:
    - CVD accounted for 1,389 deaths in 2012, 26% of all deaths
    - Of these 385 were early deaths from CVD (aged less than 75) resulting in a significantly higher death rate than the England average.

- The CVD early death rate has fallen by 70% since 1993 and the gap between County Durham and England has closed (Figure 1)
- For people who live in the most deprived areas, the mortality rate is 20% greater than the overall mortality rate for County Durham. It is 60% greater than the mortality rate of those who live in the least deprived areas.

Figure 1 CVD mortality rate (DSR) in persons under 75 years: 1995 to 2012



Source: Compendium of Population Health Indicators (nww.indicators.ic.nhs.uk)

8. This remarkable fall in mortality from CVD has been extensively studied to understand the factors that have made the biggest contribution and to see if this trend is likely to continue. Is the falling trend due to modern medical treatment for those with CVD or a reduction in risk factors in the population or a combination of both? The conclusion from the research into the decline in deaths from coronary heart disease (CHD) suggests that in England about 53% of the decline is due to changes in risk factors, 38% to treatment and the rest unexplained[1]. In Finland, where CHD mortality was much higher than the UK in the 1970's, they have seen a greater decline in mortality rates and changes in population risk factors accounted for almost 75% of this trend.[1]

9. Modern treatments for CVD have an important role and will continue to improve the lives of those who are already affected by the disease. However, it is worth noting that about a half of all CVD related deaths occur outside hospitals and often before any emergency care can make a difference. In many cases this fatal event is the first sign of CVD.

[1] Capewell S, O'Flaherty M. What explains declining coronary mortality? Heart 2008;94:1105–1108. http://heart.bmj.com/content/94/9/1105

10. In County Durham we estimate that there are around 66,700 people aged 16 or more who have CVD (Table 1). CVD is more common in areas of deprivation and among some ethnic groups.

Table 1 Estimate of the prevalence of CVD in County Durham

Description	Number
Prevalence of coronary heart disease in people aged 16 and over	27,653
Prevalence of stroke or transient ischaemic attack in people aged 16 and over	11,528
Prevalence of peripheral vascular disease in people aged 55 and over	27,540
Total prevalence of CVD	**66,721**

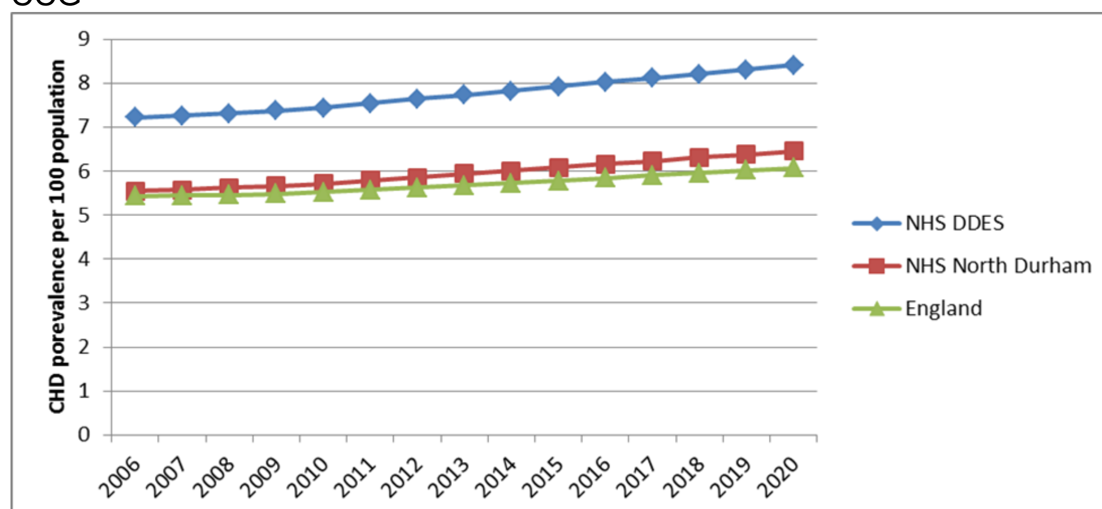
Source: NICE commissioning guide 45 'Services for the prevention of cardiovascular disease'

11. The prevalence of CHD is predicted to increase. Figure 2 shows the current and future trend in the prevalence of coronary heart disease comparing the two Durham CCGs with England. There is a marked difference in prevalence between the two CCGs reflecting differences in the prevalence of risk factors and demographic profiles. The prevalence for both CCGs is estimated to rise by 16% by 2020 from the baseline of 2006 compared with a 12% rise in England as a whole.

12. This increase is due to a number of contributory factors including an increase in the number of older people and improved survival among people who have CVD. This improved survival is due to the success of secondary prevention interventions such as procedures to increase blood flow through the coronary arteries (revascularisation), treatment with beta blockers and statins after a heart attack, and cardiac rehabilitation programmes. This shows that the burden of disease caused by CVD is likely to increase even though death rates are falling.

13. Tables 2 and 3 set out estimates for the annual costs of CVD events (e.g. heart attacks, strokes) for the NHS and social services in County Durham over a 5 year period. These tables show that managing CVD events consumes significant health and social care resources. This is likely to increase given the likely increase in the prevalence of CVD.

Figure 2 Prevalence of coronary heart disease – current and future trend by CCG



Source: North East Quality Observatory System

Table 2 Financial cost of CVD events to the NHS over 5 years

Estimated number of CVD events per annum (current trend based on HES data)	4,694
Number of years	5
Number of CVD events in 5 years	23,470
Weighted average current 5-year cost of cardiovascular events	£4,574
Total cost over 5 years	£107,351,780

Source: NICE commissioning guide 45 'Services for the prevention of cardiovascular disease'

Table 3 Financial cost of CVD events to social services over 5 years

Proportion of CVD events that are stroke	35.7%
Stroke events per annum	1,674
Proportion of strokes needing long term care	50%
Number in need of long term care	837
Average annual cost to social services	£17,568
Total cost per year	£14,705,922
Total cost over 5 years	£73,529,610

Source: NICE commissioning guide 45 'Services for the prevention of cardiovascular disease'

Population risk factors for CVD – the scale of the problem

13. In nearly all cases (90%), the risk of a first heart attack is related to nine potentially modifiable risk factors – smoking, poor diet, high blood cholesterol, high blood pressure, insufficient physical activity, overweight/obesity, diabetes, psychological stress and excess alcohol consumption. Socio-economic status is another important risk factor that is also potentially modifiable as CVD is strongly associated with low income and social deprivation.

14. The risk of developing CVD in the future can be assessed by taking into account the ten potentially modifiable risk factors above and fixed risk factors (age, gender, ethnicity):

- CVD affects people most commonly after the age of 50 and increases significantly with age
- The lifetime burden of CVD is greater in women because they live longer and have an increased risk of stroke after the age of 75
- South Asian men are more likely to develop CVD at a younger age.

15. Table 4 sets out the estimated number of potentially modifiable CVD risk factors in County Durham among people aged 16 and over. It shows that there are about 280,000 with at least one potentially modifiable risk factor for CVD. People may have more than one risk factor (for example, raised blood pressure often coexists with other cardiovascular risk factors such as tobacco use and being overweight or obese). Therefore, among those who are at risk of developing CVD more than one lifestyle intervention may be needed to reduce that risk.

Table 4 Estimate of the number of modifiable risk factors for CVD in County Durham (based on a population aged 16 and over of 421,267)

Prevalence of CVD risk factors (among those aged 16 and over)	%	Number
Overweight (BMI 25–30)	34.8%	146,601
Obese (BMI greater than 30)	28.5%	120,061
High cholesterol (greater than 5 mmol/litre total cholesterol)	56.5%	238,016
Smoke cigarettes	24.9%	104,895
High blood pressure	37.4%	157,554
Not meeting exercise guidelines	66.0%	278,036
Hazardous and harmful drinking	31.3%	131,721
Type 2 diabetes	7.0%	29,354

Source: NICE commissioning guide 45 'Services for the prevention of cardiovascular disease'

Potential impact of interventions for the prevention of CVD

16. Table 5 summarises the findings from the economic model produced by NICE in the commissioning guide for services to prevent CVD. The risk factors column is a conservative estimate of the number of each risk factor present in the population aged 40 and over. (N.B The number of each risk factor is not the same as the number of people with that risk factor as individuals may have more than one risk factor). The estimated number of CVD events avoided over 5 years is based on the potential risk reduction from evidence-based interventions recommended by NICE.

17. The figures in Table 5 assume that over a 5 year period, among the target population for each intervention among people aged 40 years and over, 5% will sustain the expected lifestyle change. Based on these conservative estimates of the effect of these interventions, the impact of the CVD prevention strategy will prevent 135 CVD events and increase overall life expectancy by 1.4years.

Table 5 Impact of interventions among people aged 40 years and over to reduce CVD risk factors in County Durham

Interventions	Risk factors	CVD events avoided over 5 years
Physical activity interventions for people who are overweight (BMI 25–30)	68,712	15
Weight management interventions for people with BMI greater than 30 (to reduce weight by 3 kg)	41,829	5
Dietary interventions to lower cholesterol levels by reducing saturated fat intake by 5% of total energy)	140,644	75
Smoking and/or tobacco use	16,783	11
Dietary interventions achieving reductions of 5 mmHg or more in systolic blood pressure	77,154	17
Alcohol interventions (reducing alcohol intake to light or moderate)	62,264	11
Diabetes (Impaired fasting glucose lifestyle intervention)	2,686	1
Total number of risk factors and events avoided over 5 years	**410,072**	**135**

Source: NICE commissioning guide 45 'Services for the prevention of cardiovascular disease'

18. These figures underestimate the full impact of these interventions to reduce CVD risk by limiting the analysis to an older age group, and by not taking into account the other conditions and subsequent events that will be prevented by lifestyle changes (caused by cancer, diabetes, lung disease and kidney disease).

19. For example the NICE Return on Investment model for tobacco allows us to estimate the potential impact of stop smoking services and wider tobacco control initiatives. For County Durham, the baseline estimate of annual smoking related costs comes to just under £30 million. This is broken down into costs for NHS of £21 million, costs to business (productivity loss) of £8.7 million, and costs due to passive smoking of £300,000.[2]

20. The current cost of the full range of interventions for tobacco control comes to £3.8 million made up of £3.6 million for Stop smoking Services and an additional £200 thousand for the Durham contribution to the regional tobacco control programme, FRESH. Table 6 summarises the return on investment for this spend taking both NHS savings and the value of health gains into account, for each pound spent on stop smoking services and tobacco control. This is highlighted in the NICE local government briefing *'Judging whether public health interventions offer value for money'*.[3]

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[2] NICE tobacco Return on Investment Tool
http://www.nice.org.uk/usingguidance/implementationtools/returnoninvesment/TobaccoROITool.jsp

Table 6 Return on investment for every £1 spent on stop smoking services and tobacco control.

Period	Return on investment for every £1 spent
2 years	£1.02
5 years	£1.52
10 years	£2.97
Lifetime	£9.69

21. Changes in lifestyle will have the highest impact on reducing early deaths from CVD and reducing health inequalities. The figures in Table 5 setting out the prevalence of risk factors in the population suggest that greatest potential for preventing CVD is to improve people's diet (reduce fat and salt intake), increase physical activity and reduce smoking. Given the current balance of investment in programmes to address these risk factors, an initial analysis by the public health team has come to the following conclusions:
    - Stop smoking and tobacco control remains the highest priority as this will have the greatest impact on improving health and reducing inequalities for CVD, cancer and lung disease.
    - The emphasis of interventions for physical activity, weight management and diet should shift from programmes aimed at individuals toward broader community and population programmes.
    - Population policies and programmes to improve diet should be given a higher priority.

22. This is consistent with national guidance on the prevention of premature mortality through early identification of those who are at risk and promoting interventions to reduce that risk. The NHS and Public Health Outcomes Frameworks include:
    - Reduction in under-75 mortality from cardiovascular disease – NHS outcomes framework improvement area 1.1
    - Increased healthy life expectancy – Public Health outcomes framework outcome 1
    - Reduced differences in life expectancy and healthy life expectancy between communities – Public Health outcomes framework outcome 2.
    - Domain 2 – Health improvement/ People are helped to live healthy lifestyles, make healthy choices and reduce health inequalities
    - Domain 4 - preventing premature mortality/ 4.04 - Under 75 mortality rate from all cardiovascular diseases (Persons)

Type 2 diabetes

23. People with Type 2 diabetes (T2D) have death rates from heart disease about two to four times higher than adults without diabetes. The underlying

[3] NICE local government briefings http://publications.nice.org.uk/judging-whether-public-health-interventions-offer-value-for-money-lgb10

causes for CVD and T2D share many common risk factors. Therefore they are considered as part of the same family of conditions and so the prevention of T2D is included in this strategic framework.

24. T2D is among the most common chronic illnesses in the UK. Its prevalence is increasing and it has a significant economic importance. As well as the direct costs of treating the illness and its associated complications, diabetes also has a number of indirect social and productivity costs, including those related to increased mortality and morbidity and the need for informal care and sickness absence In 2010/2011, approximately 10% of total NHS expenditure went on treating diabetes.

25. If no changes are made, by 2035/2036 expenditure on treating diabetes is predicted to rise to around 17% of NHS expenditure. T2D accounts for approximately 90% of cases of diabetes. In 2010/2011, the direct cost of treating people with T2D in the UK was estimated at £8.8 billion, with indirect costs of £13 bn. In real terms, the direct cost in 2035/2036 is predicted to reach around £15.1 billion, with indirect costs of £20.5 billion. Treating the related complications will account for a substantial proportion of the direct health costs, if current care regimes are maintained (Hex et al. 2012).

26. In July 2012 NICE published guidance on the prevention of T2D including identification and interventions for those at high risk (NICE, 2012). The recommendations focus on two major activities:
    - Identifying people at risk of developing T2D using a staged (or stepped) approach. This is covered by the revised Health Check programme commissioned in County Durham (Check4Life).
    - Providing those at high risk with a quality-assured, evidence-based, intensive lifestyle programme to prevent or delay the onset of T2D.

27. The NICE Guidance is based on the growing evidence that most cases of T2D are preventable. The Diabetes Prevention Programme in the US is the largest clinical trial to date showing that compared to the placebo group, after 10 years of follow up, the incidence of T2D was reduced by 34% in the intensive lifestyle group. The investigators estimate that the cost per QALY for the ILP was £670.

Strategic vision

28. The strategic vision is:

To increase healthy life expectancy and to reduce health inequalities though the prevention of avoidable premature deaths and disability caused by CVD.

This will be achieved through the integration of policies and commissioning plans across population-wide, community-level and individual approaches to cardiovascular disease prevention.

Principles

29. The strategic vision is underpinned by two fundamental principles:

A population wide approach will have a greater impact on the health of people living in County Durham than a strategy that is predominantly focused on helping those people who are at a high risk of developing cardiovascular disease.

The rationale for this principle is the concept of the prevention paradox set described by Professor Geoffrey Rose[4]. The prevention paradox describes the seemingly contradictory situation where the majority of cases of a disease come from a population at low or moderate risk of that disease, and only a minority of cases come from the high risk population. This is because the number of people at high risk is relatively small.

Proportionate universalism as proposed by Professor Sir Michael Marmot[5]. Focusing solely on the most disadvantaged will not reduce health inequalities sufficiently. To reduce the steepness of the social gradient in health, **actions must be universal, but with a scale and intensity that is proportionate to the level of disadvantage**.

Strategic framework

30. To achieve this strategic vision, the framework below sets out an integrated approach to planning and commissioning high quality, evidence based services for the prevention of CVD. The basis for this is the understanding that a combination of approaches is more likely to ensure the sustained changes in lifestyle and behaviour needed to reduce the impact of CVD.

31. The different elements of the strategic framework are structured around three complementary approaches:

Population-wide approaches aim to change the risks from the social, economic, material and environmental factors that affect an entire population. This can be achieved through regulation, legislation, subsidy and taxation or rearranging the physical layout of communities.
Community-level approaches are targeted at groups of people who are at high risk of cardiovascular disease (for example a specific black and

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[4] Rose G. The strategy of preventive medicine. Oxford, Oxford Medical Publications, 1992.

[5] Marmot M. Fair Society, Healthy Lives – the Marmot Review
http://www.instituteofhealthequity.org/Content/FileManager/pdf/fairsocietyhealthylives.pdf

minority ethnic group or geographical area) and may include activities to change health behaviours among the group.
Individual approaches are interventions that give people direct encouragement to change their behaviour. This may involve providing information about the health risks of their current behaviour, offering advice or prescribing a treatment.

32. The evidence supporting this combination of approaches comes from NICE commissioning guide 45 'Services for the prevention of cardiovascular disease' NICE 2012[6]. This document builds on the recommendations in NICE public health guidance 25 'Prevention of cardiovascular disease at a population level' NICE 2010[7] and NICE public health guidance 15 'Identifying and supporting people most at risk of dying prematurely'[8] that covers reducing the rate of premature deaths from cardiovascular disease and other smoking related diseases.

33. This growing evidence suggests that combining population, community and individual approaches is the most effective way of preventing early deaths and disability caused by CVD. National bodies such as the Local Government Improvement and Development and the Cardiovascular Coalition recognise that a combination of approaches is necessary for changes in lifestyle to be maintained and health inequalities reduced.

34. Figure 3 summarises such an integrated approach to the prevention of cardiovascular disease. It shows the relationship between the three complementary approaches, the commissioning responsibilities within these approaches and lists examples of commissioned activities and interventions grouped into broad service areas.

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[6] NICE commissioning guide 45 'Services for the prevention of cardiovascular disease'
http://publications.nice.org.uk/services-for-the-prevention-of-cardiovascular-disease-cmg45

[7] NICE public health guidance 25 'Prevention of cardiovascular disease at a population level'
http://guidance.nice.org.uk/PH25

[8] NICE public health guidance 15 'Identifying and supporting people most at risk of dying prematurely'
http://guidance.nice.org.uk/PH15

Figure 3 Framework for the integrated approach to CVD prevention (from NICE CG 45 Services for the prevention of cardiovascular disease

Approach	Population-wide			Community	Individual		
Lead commissioner				Local authority - public health			
	Local authority - other than public health					Clinical commissioner	
Activities	Regulatory services	Planning	Public procurement	Community based services	Assessing individual risk	Lifestyle programmes	Medical interventions
	Regulating opening hours, location and numbers of take-aways	Improve safety and develop the environment conducive to physical activity (walking and cycling)	Specify the use of healthy diet choices, including low-salt and low-fat products	Diet and healthy eating programmes in targeted communities	NHS Health Check programme in GP practices	Stop smoking service	NICE guidance on medical interventions to reduce risk
				Smoking cessation in targeted communities		Dietary interventions	
	Illicit tobacco control			Community food growing		Physical activity programmes	Medicines management
				Working with employers to encourage workplace wellbeing	Check4Life programme in community settings	Weight management programmes	
	Compliance with smokefree legislation			Free or subsidised fruit and veg in targeted communities		Alcohol services	Management of CVD risk factors in people with a high risk of CVD specifically stop smoking and statins
				Smoke free homes		Generic lifestyle, brief advice and interventions	
	Reduce availability and supply to young people			Social marketing and health promotion			
				Improve the quality of food in schools and care homes			

Strategic priorities

35. Population-wide approaches to cardiovascular disease prevention include interventions to modify the environment to encourage physical activity, to regulate access to items that increase cardiovascular disease risk such as tobacco, and to reduce the availability of foods that are high in fat, salt and sugar.

36. Commissioning population-wide and community-level approaches in accordance with NICE guidance is integral to creating a healthy local environment. An environment that is conducive to making healthy choices affects the likelihood that people will achieve positive outcomes from individual approaches such as an NHS Health Check, behaviour change, lifestyle interventions and medical interventions. Historically the commissioning of population-wide and community-level approaches has often been neglected or poorly coordinated at a local level. The strategic priorities for the prevention of CVD are:
    - Population and community based approaches will have a higher priority
    - Programmes and policies to improve people's diet will be given a greater priority.

Population approaches

37. The transfer of the responsibility for improving the health of the population from the NHS to local government provides the opportunity to re-focus efforts from individual toward population approaches. Underpinning this approach is the evidence summarised in the Marmot Reviews of health inequality for England and Europe emphasising the importance of the social determinants of health.

38. The key message from the Marmot report was that the reason why the UK has failed to improve population health and health inequalities over the past 20 years (compared to other European countries) is that preventative investment for health improvement has focused too much on disease prevention, detection and management – and not enough on the social and economic factors that caused the disease 'risk conditions' in the first place.

39. The underpinning rationale for transferring elements of public health to local government is that councils already either provide or commission place based services that impact the socio-economic determinants of health. The transformation agenda for public health is to shift the emphasis from pure lifestyle interventions toward tackling these social and economic factors that affect local communities.

40. Public Health Agreements (PHAs) will be established with each council service grouping identified as contributing to social-economic determinants of health. This will include public health outcomes in addition to the grouping's existing activity and delivery with a commitment to allow a health impact assessment on relevant policies, decisions and resource investments to ensure the maximisation of health improvement. Each

service grouping, with the assistance of public health, will be asked to agree:

- Public health outcomes as part of its mainstream delivery
- Identification of interventions to address the social determinants of health.

41. The preliminary list of policy areas relevant to the prevention of CVD for consideration and to be taken forward in discussion with service groupings include:

Food and Health

- Restricting marketing and promotions for junk food aimed at children and young people
- Planning guidance to restrict the location and opening hours of take-aways and other food retails outlets in specific areas e.g. close to schools
- Public sector catering contracts to meet Food Standard Agency approved dietary guidelines based on the 'Eatwell plate'
    - Reducing salt intake
    - Replacing saturated (bad) fat with polyunsaturated (good) fat
    - Eliminating the use of industrial trans fats
- Catering contracts to ensure a range of affordable and healthier options
- Promoting a Mediterranean diet
- Conduct regular surveys and collate data from relevant sources to monitor diet and food purchasing
- Monitor the levels of industrial trans fats in food sold by take aways and other food outlets

Tobacco control

- Implement the County Durham 5 year action plan to reduce smoking prevalence
- Commission an evidence-based stop smoking service
- Develop an asset-based approach to tobacco control in specific communities with a high prevalence of smoking
- Reduce smoking in pregnancy through the Baby clear programme

Other policy areas

- Transport plans to promote physical activity
- Health impact assessment of relevant policies

42. In County Durham there are a number of multi-agency strategy groups with action plans that contribute to the CVD Prevention Framework. This includes:

- Healthy Weight Strategy
- Physical Activity Strategy
- Tobacco Alliance Action Plan
- Food and Health Action Plan

These can be accessed via the public health team and will be available on the council website.

Community approaches

43. Routine data, such as income deprivation, has been reviewed to assess the 30% most deprived geographical areas which warrant prioritised health improvement interventions. The adult element of the Wellbeing for Life service will ensure local communities are at the core of commissioned activity. Three core geographical locations have been identified from which staff will be based and outreach will be coordinated:

    - North Durham: Stanley
    - East Durham: Easington (from an established base – Healthworks)
    - South Durham: Bishop Auckland
    - A fixed satellite will also operate from Tow Law in Durham Dales to ensure staff can reach pockets of deprived communities throughout the rural area of Durham Dales.

    Further work is ongoing to identify appropriate community buildings. Vulnerable groups with specific needs will be reached through planned and integrated programmes.

44. The underlying principles for the Wellbeing for Life service include a stronger link to community development and asset-based approaches combined with a generic delivery model utilising a case-management approach.

45. As a complementary way to encourage people to be more physically active, public health and County Durham Sport have commissioned an innovative web and mobile phone based programme in collaboration with the Movement as Medicine programme at Newcastle University Medical School. The aim of this programme is to train staff conducting Health Checks in both primary care and community settings, to encourage people who are physically inactive to take part in evidence based motivational programmes.

Individual approaches

NHS Health Checks

46. NHS Health Checks is a national risk assessment and management programme for those aged 40 to 74, who do not have an existing cardiovascular disease (CVD), and who are not currently being treated for CVD risk factors. It is a rolling programme offering everyone in the target group a Health Check every 5 years. The aim of the programme is to identify everyone in the eligible population who has a high risk of developing CVD.

47. Public Health England has included the roll-out of the Health Check programme as a priority (PHE April 2013[9]). The Public Health Outcomes

[9] Public Health England's priorities for 2013 to 2014.

Framework includes the take up of the NHS Health Check programme by those eligible, as an indicator measuring progress toward the objective of helping people to live healthy lifestyles, make healthy choices and reduce health inequalities.

48. The evidence base underpinning the Health Check programme has been questioned by the independent Cochrane Group following the publication of a systematic review of published trials. The key conclusion from this review is that the current use of general health checks is not supported by the best available evidence (Krogsbøl, 2012[10]). This prompted many influential bodies such as the Royal College of General Practitioners to question the value of Health Checks.

49. Since April 2013, commissioning and monitoring the risk assessment element of the NHS Health Check is one of the five mandatory public health functions in the Health and Social Care Act 2012 set out in The Local Authorities Public Health Functions and Entry to Premises by Local Healthwatch Representatives Regulations 2013 (Department of Health, 2013[11]).

50. The performance indicators for the programme are the proportion of the eligible population who have been invited for a Health Check and the proportion of the eligible population who receive a Health Check each year. The eligible population is based on the resident population aged 40 to 74, excluding those with an existing CVD etc. For monitoring purposes, PHE will include those who have already had a Health Check in the target population even though they are not eligible for another 5 years. This will mean a lower than expected performance for Local Authorities where the programme has been running for several years.

51. In County Durham the programme started in October 2008 and up to December 2014, 115,752 Health Checks have been carried out. Until 2013 nearly all of the Health Checks in County Durham were carried out in GP practices with a relatively small number carried out in pharmacies. Since 2013/14 public health has commissioned a community based Check4Life programme. This programme provides Health Checks in a range of different community settings.

52. Figure 4 shows the number of Health Checks carried out each quarter by GP practices since October 2008 and community providers since April 2012. It also shows the combined number of health checks compared with the quarterly target. The figure illustrates the marked variation in the

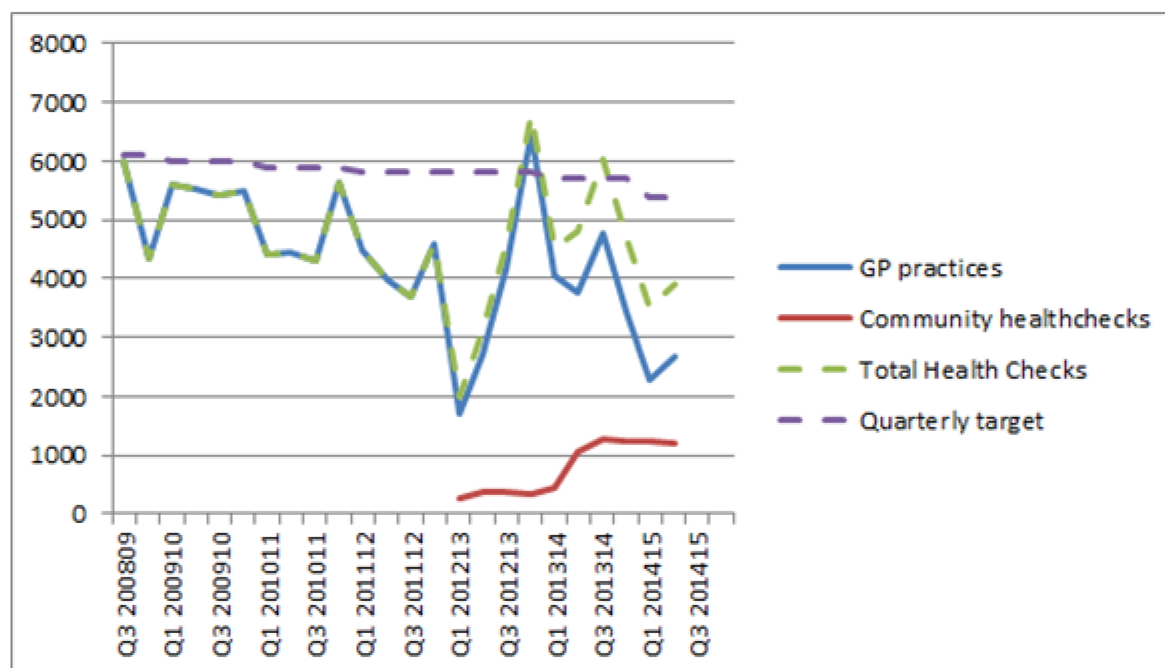
https://www.gov.uk/government/publications/public-health-englands-priorities-for-2013-to-2014

[10] Krogsbøll LT, Jørgensen KJ, Larsen CG, Gøtzsche PC. General health checks in adults for reducing morbidity and mortality from disease: Cochrane systematic review and meta-analysis. BMJ2012;345:e7191.
Abstract/FREE Full Text

[11] Department of Health. The Local Authorities Public Health Functions and Entry to Premises by Local Healthwatch Representatives Regulations 2013
http://www.legislation.gov.uk/uksi/2013/351/contents/made

performance by GP practices. Since April 2012 the community health check programme has been extended to over 30 pharmacies, all local authority run leisure centres and a wide range of community settings. Since then the number of Health Checks carried out in the community setting has risen significantly and this now accounts for about 30% of all health checks carried out.

Figure 4 Number of Health Checks, by setting, by quarter 2008 to 2014



53. The overall county-wide achievement masks the wide variation in performance by locality and by GP practice. The 2014/15 Q3 figures show that the overall coverage of the programme is 8% of the eligible population compared with the expected coverage of 15% at this point in the year. The GP practice coverage ranged from less than 1% to 23%.

54. National guidance and the local service specification for a Health Check include three elements: risk assessment, risk communication and risk management. Most practices are accurately recording a CVD risk score after a Health Check, but a significant number of health checks have no recorded risk score (14% of all health checks up to December 2013).

55. Public Health commissioned a survey of people within the target age group eligible for a Health Check. Over 500 people were interviewed, of which 53% had received a Health Check. Of these, only 21% recalled being given a CVD risk score and 52% recalled being given advice to improve their lifestyle following the Health Check.

56. From 2014/15 the Health Check programme in County Durham will include the following objectives:

- Targeting the invitations from GP practices for a Health Check toward those patients with an estimated high risk of CVD
- Expanding the capacity of the community Check4Life programme toward geographical areas with a high prevalence of risk factors for CVD, low uptake of Health Checks by GP practices, and settings where people can have a Health check without a GP practice appointment e.g. workplace, market days.
- Improving the quality of all Health Checks through the Check4Life Quality Assurance programme
- The quality improvement for Health Checks in general practice include:
  - Health Checks carried out at a single appointment by carrying out blood cholesterol checks using portable equipment in the practice
  - Proving practices with a software package that collects all the information from the Health Check and provides a structured risk communication programme that incorporates information on locally available options for people to improve their health.

57. These objectives will be achieved by expanding the Check4Life programme to GP practices. This includes providing each practice with Health Options software, LDX cholesterol testing equipment, staff training and inclusion in a Check4Life Quality Assurance programme.

58. For GP practices, the roll out of the Check4Life programme is in three stages:
    Stage 1
    - Data sharing agreements
    - Baseline needs assessment
    - Training practice staff to use Health Options software and LDX Cholesterol near patient testing equipment
    - Installing Health Options software on all computers where health checks are conducted
    - Supplying each practice with LDX Cholesterol testing equipment
    - Testing the connectivity between Health Options software, Health Diagnostics servers and transferring data back to the practice system

    Stage 2
    - Apollo Medical system accessing the practice system to identify patients eligible for a health check
    - Stratification of the eligible population by risk for CVD and T2D
    - Pre-populate the Health Options software with demographic information for eligible patients

    Stage 3
    - Set up a Check4Life Docmail account for the practice
    - Set up the standard Check4Life invitation letter in Docmail with the practice specific information
    - Target the invitations at the eligible population with the highest risk for CVD and T2D.

59. The key features of the Check4Life programme in GP practices are:

- The Health Check will be carried out at a single appointment using near-patient-testing equipment to measure blood cholesterol.
- Practices will use a standard software package (Health Options) that provides a well-structured risk communication programme incorporating information on locally available lifestyle programmes
- The software collects a consistent data set for the whole programme and to for contract monitoring and payments

60. Table 7 shows the number and proportion of practices that have agree to participate in the Check4Life programme. So far 39 out of a total of 72 practices have agreed to take part (54%) with a higher level of interest in DDES CCG compared to North Durham. This figure includes 61 primary care sites set up with Health Options software and LDX cholesterol machines.

Table 7 Take up of the Check4Life programme by GP practices December 2014

	C4L	All	%
Durham & Chester le Street	5	17	29%
Derwentside	4	14	29%
Dales	8	12	67%
Easington	13	18	72%
Sedgefield	9	11	82%
Total	**39**	**72**	**54%**

61. The aim is to offer the full Check4Life programme to all 72 practices in Count Durham. Some practices may decide not to take up this offer, and others may take up the offer but will be unable to carry out a sufficient number of health checks to justify the investment in training and equipment. For these practices, the expectation is that their minimum commitment to the health check programme is to sign the data sharing agreements. This will allow the programme to accurately identify those who are eligible for a health check especially those who are at a high risk of developing CVD and T2D. The programme will then invite these patients for a health check giving them the option to go to a nearby practice or to a community Check4Life provider for their check.

Intensive lifestyle programmes

62. The basis for the joint actions between public health and other partners to prevent cardiovascular disease through lifestyle interventions are through the implementation of the evidence-based interventions recommended in the following NICE pathways:
    - NICE pathway for alcohol-use disorders
    - NICE pathway for diet
    - NICE pathway for physical activity
    - NICE pathway for smoking
    - NICE public health guidance on community engagement

63. The potential need for individual lifestyle programmes is set out in Tables 4 and 5. The actual uptake of lifestyle programmes depends on a range of factors including the community awareness of the need for lifestyle change, the acceptability of any programme offered and the accessibility of the programmes. One of the consequences of re-aligning public health resources toward wider health determinants and population-based policies is a reduction in the capacity of lifestyle programmes aimed at individuals. The public health team will therefore commission lifestyle programmes through the more generic and targeted Wellbeing for Life service described in paragraphs 38 to 40.

64. In line with NICE guidance on the prevention of Type 2 Diabetes, County Durham has introduced a pilot programme that aims to replicate the findings of the intensive lifestyle programmes in the US and Finland for the prevention of T2D (Just Beat It). The key indicators of the programme are:
   - Weight loss of 5 – 10kg or 5% of baseline weight at 6 months
   - Increased physical activity at 12 weeks and 6 months
   - Improved diet at 6 months.

65. Implementing the Just Beat It programme will bring the following benefits:
   - a focus on those people who are at particularly high risk of developing T2D
   - a reduction or delay in the number of people progressing to T2D, the earlier diagnosis and management of T2D leading to reduction or delay in the development of complications and
   - an increase in public awareness of the risks of developing T2D and the implications of living with the condition.

Medical interventions

66. A key objective of the Health Check programme is to identify people who are at an increased risk of developing CVD. The next step is to provide them with advice and support to reduce that risk through lifestyle change and, in certain circumstances, by taking medication. The evidence-based advice from NICE guidance on lifestyle changes mentioned in paragraph 39 is included in the GP practice software provided as part of the Check4Life Quality Assurance programme. Public health will work closely with CCGS and their member practices to ensure that the risk communication and risk management elements of the Health Check programme are incorporated into their Primary Care Strategy.

67. As part of the Check4Life Quality Assurance programme mentioned in paragraph 49, nurses and healthcare assistants in general practice who carry out Health Checks will be able to take part in training and educational events to support the implementation of the evidence-based interventions recommended in the following NICE guidance for the management of CVD risk factors:
   - NICE clinical guideline 127: Hypertension - clinical management of primary hypertension in adults
   - NICE clinical guideline 71: Identification and management of familial hypercholesterolemia

- NICE clinical guideline 181: Lipid modification
- NICE clinical guideline 43. Obesity - guidance on the prevention, identification, assessment and management of overweight and obesity in adults and children
- NICE clinical guideline 180: Atrial fibrillation - the management of atrial fibrillation
- NICE public health guidance 38: Preventing type 2 diabetes: risk identification and interventions for individuals at high risk

68. The recommendations in NICE guidance provide an opportunity for public health and primary care to collaborate on implementing the recommendations. From the list of NICE guidance in paragraph 51 the priorities for collaboration are:

- Hypertension

The Check4Life programme in County Durham extends the scope of the national programme by offering a modified health check to people aged 18 to 40. The modified health check includes a review of cardiovascular risk factors including blood pressure measurement to identify people with unrecognised hypertension.

- Lipid modification

The latest guidance recommends that the Health Check programme should prioritise people for a full formal risk assessment if their estimated 10‑year risk of CVD is 10% or more. Until now the programme has prioritised people with an estimated 10-year risk of 20% or more. This increases the number of people considered to be at high risk of CVD by 35,600 in County Durham. The Health Check programme should identify up to 7,000 additional people a year with a high risk of CVD needing advice and management. To complement the advice GPs will off to these people regarding the benefits of taking statin therapy to reduce their CVD risk, CCGs and public health should consider jointly commissioning intensive lifestyle programmes that complements the generic programmes in the Adult Wellbeing service.

- Atrial fibrillation

The Check4Life programme in County Durham extends the scope of the national programme by offering a modified health check to people aged over 74. The modified health check includes a review of cardiovascular risk factors including blood pressure measurement to identify people with unrecognised hypertension. It also includes a pulse check to detect undiagnosed atrial fibrillation, the most common abnormal heart rhythm and a common cause of stroke.

- Preventing T2D

The Check4Life programme in County Durham includes the identification of people at risk of developing T2D. NICE guidance recommends that those identified at high risk are offered a quality assured, evidence based, intensive lifestyle programme to prevent or delay the onset of T2D. The County Durham Just Beat It programme for the prevention of T2D is

aimed at reducing weight, improving the diet and increasing the physical activity levels of those identified at high risk of diabetes. In collaboration with the team delivery the diabetes education programme DESMOND, the Just Beat It programme will also be offered to people newly diagnosed with T2D as part of their care plan.

Consultation, monitoring and review

69. The strategic framework sets out the direction of joint actions for the prevention of CVD. The framework and overall approach brings together the agreed action plans and collaborative work across County Durham. The framework also provides the context for more joint working as part of the transformation of public health in the local authority.

70. The monitoring and review of this strategy will be through the relevant working groups set up to oversee specific action plans. This includes:
    - Tobacco Alliance
    - Health Weight Alliance
    - Physical activity Strategy Group
    - Sustainable Food Partnership

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Action Plan

Strategic Actions/Sub-Actions	Lead	Timescale	Link to Relevant Plan
Protect children from tobacco			
Work in partnership with local community groups and agencies to run awareness campaign on the risks of second hand smoke to children and young people	Public Health Portfolio Lead	April 2016	Council Plan
Implement local policy for Smoke Free children's play areas	Public Health Portfolio Lead	April 2015	Tobacco Alliance Action Plan
Reduce the number of women smoking in pregnancy	Public Health Portfolio Lead	April 2016	Tobacco Control Alliance Action Plan
Deliver an intelligence led and targeted enforcement programme to reduce availability and supply of tobacco products to children	Environmental Health and Consumer Protection	April 2016	Tobacco Control Alliance Action Plan

Improve the social factors that affect health and wellbeing and health inequalities			
Systematic application of bylaws to restrict location of takeaways and where it is agreed they can open, to restrict opening hours	Regulatory Services, Planning, DCC	April 2015	County Durham Plan.
To use procurement or other processes e.g. Healthy Food schemes to 'specify the use of dietetically appropriate food choices' in establishments such as care homes, schools, workplaces (and to include vending machines)	Procurement and Public Health, DCC and procurement in other public and private sector organisations.	Ongoing	DCC Procurement strategy County Durham Local Sustainable Food Strategy
Work with residents via Neighbourhood Planning process to raise the profile of land for cultivation and embed within the local plans	Public Health and Planning, DCC,	August 2015	CDP Neighbourhood Plans County Durham Local Sustainable Food Strategy.

Undertake a food mapping exercise to assess resident's access to food outlets and associated food supply issues.	Public Health, DCC	August 2015	JHWS
Explore how free or discounted fruit and vegetables can be used in any public health programmes e.g. via Responsibility Deal	Public Health, DCC	April 2016	
Ascertain extent to which 'unhealthy' food product placement occurs either within the vicinity of schools and/or in deprived neighbourhoods and take appropriate actions to reduce exposure of populations	Public Health & Planning, DCC	September 2016	
Commission a range of educational programmes across the life course to support individuals and families to understand and practice growing, purchasing, storing and preparing good food.	Public Health Portfolio Lead, DCC	April 2014	JH&WBS, C&YPP, School Food Plan
Extend and badge any food and health programmes with Change4Life branding and explore whether current messages reach the segmented population groups.	Public Health, DCC	April 2014 ongoing	
Develop and support the voluntary and community sector as a conduit for advocacy activity on agendas such as the Common Agricultural Policy, food product placement, marketing of foods to those most vulnerable, trans fats, GM crops.	County Durham Food Partnership	Ongoing	County Durham Local Sustainable Food Strategy
Improved spatial planning - safe and sustainable built environment, encouraging use of safe green space, cycling and physical activity	Public Health Portfolio Lead, Planning, DCC	Ongoing	
Improve compliance with Smoke Free hospital grounds	County Durham and Darlington Foundation Trust	April 2017	
Deliver a programme of intelligence led and targeted interventions to ensure compliance with smoke free legislation in premises and vehicles (including taxis).	Environmental Health and Consumer Protection	April 2016	Tobacco control Alliance Action Plan
Review Smoke Free policy on DCC grounds and improve compliance	Public Health Portfolio Lead	April 2016	
Contribute to national and regional social marketing and media campaigns on tobacco control in collaboration with the regional programme FRESH	Public Health Portfolio Lead	2017	
Working In partnership and using local, regional and intelligence sources to plan and deliver special operations and targeted interventions tackling illicit, counterfeit, bootlegged and smuggled tobacco products.	Environmental Health and Consumer Protection	April 2016	

Help people to live healthy lifestyles, make healthy choices and reduce health inequalities			
Provide a wide range of physical activity opportunities across County Durham to support more active lifestyles • Review the Physical Activity Delivery Plan delivering a greater range of opportunities to increase participation and activity levels in County Durham • Develop and provide a community core offer for physical activity across the County with additional targeted opportunities based on geography/health need • Develop high quality, accessible and affordable facilities to encourage participation in physical activity e.g. cycle and walk routes/legacy gyms	Public Health Portfolio Lead - Physical Activity/ Obesity in partnership with DCC Culture and Sport	TBC	
Develop a Healthy Weight Alliance for County Durham: bring all key elements of an obesity strategy together, strengthen work programmes: • Conduct an Obesity Self-Assessment based on NICE guidelines • Develop a multi-agency cross cutting strategy	Public Health Consultant	TBC	
Introduce into the Check4Life programme a risk assessment tool for people at high risk of T2D	Public Health Consultant	March 2015	
Commission a quality assured, intensive lifestyle programme aimed at high risk individuals to prevent T2D	Public Health Consultant, CCGs	September 2014 Evaluation end 2015	
Increase the number of people accessing stop smoking services in targeted areas and the proportion that quit	Public Health Portfolio Lead	April 2017	Tobacco Control alliance Action Plan
Expand the ‘Stop before the Op’ campaign with GPs	Public Health Portfolio Lead	April 2016	Tobacco control Alliance Action Plan
Review smoking support within Mental Health settings.	Public Health Portfolio Lead	April 2017	Tobacco Control Alliance Action Plan

Reduce cardiovascular disease risk factors at an individual level.			
Include all GP practices in the Check4Life programme	Public Health Consultant, GP Practices	March 2015	
Increase the proportion of people on practice registers with an estimated risk 20% or more of developing CVD in the next 10 years having an NHS Health Check and risk management plan.	Public Health Consultant CVD, GP Practices	March 2016	
Increase the number of people in areas with a high prevalence of risk factors for CVD accessing the Check4Life programme and taking part in lifestyle interventions	Public Health Consultant CVD	March 2016	
Extend the scope of the Check4Life programme to identify people aged less than 40 with unrecognised high pressure, and people aged over 74 with an unrecognised abnormal heart rhythm.	Public Health Consultant CVD, GP Practices	April 2014	
Increase the proportion of people with atrial fibrillation at a high risk of developing a stroke receiving anticoagulation treatment	Public Health Consultant CVD, GP Practices	March 2016	

Increased physical activity and participation in sport and leisure			
Provide a range of physical activity opportunities across County Durham to support more active lifestyles by reviewing and co-ordinating a Physical Activity Delivery Plan	Public Health Portfolio Lead & Leisure Services	TBC	Service Plan