Poster presentations
INTRODUCTION:

Kent Community Health NHS Foundation Trust (KCHFT) is currently commissioned by Kent County Council (KCC) to deliver the NHS Health Checks Programme in Kent, working predominantly with Primary Care.

We also offer an outreach programme in areas of need; this includes areas of low uptake and high prevalence of unhealthy lifestyles. This programme is coordinated by KCHFT and delivered by the core team and other partners.

However, this year we have introduced an initiative to train our in-house team of NHS Health Trainers to provide NHS Health Checks to targeted communities as part of their broader aim of reducing health inequalities in Kent.

AIM:

There are many people who may not be able, or wish to access an NHS Health Check through their local GP. This has resulted in areas of low uptake of NHS Health Checks.

In order to address the resulting inequity of health provision and ultimately health inequalities; the aim of working more closely with the NHS Health Trainer service within KCHFT is to provide a way of increasing uptake in the harder to reach communities and offer a more seamless and holistic pathway to other health improvement services.

METHODOLOGY:

The following initiatives were introduced:

- Training of all Health Trainers to deliver Health Checks
- Training of all Health Trainers to deliver MOT’s
- Introduction of a strategically targeted combined Workplace offer
RESULTS:

Increase in number of health checks – comparison from August 2015 to August 2016 (YTD) – increase of 8%

Number of health checks delivered by HTs – comparison from August 2015 to August 2016 (YTD) – 677 an increase of 3%

Number of MOT’s delivered by HT’s – comparison from August 2015 to August 2016 (YTD) – 1302

The number of new clients seen by the Health Trainer service during 2014/15 was 2500. This increased to 3866 during 2015/16. Some of this increase can be attributed to the introduction of Health Check delivery to the Health Trainer role.

Targeted work place Health Checks with combined MOT offer for routine and manual workforce, during working day and out of hours have proved successful. For example Morrison’s depot – a yield of 72 health checks to date with a plan to deliver checks/mot’s to the 3,000 strong work force

CONCLUSION:

The introduction of this way of integrated working has shown benefits to both the NHS Health Checks programme and the Health Trainer service with regard to improving uptake and outcomes whilst enhancing the patient experience and accessibility. This has improved access to health provision for those who face the highest levels of health inequalities and demonstrate the greatest needs.

Other benefits of extending the NHS Health Check programme in this way include:

- Early intervention for those who would not have accessed the programme via Primary Care
- Increased onward referral rate
- Cost savings to the wider NHS with regard to admission to acute services
- Creation of a patient pathway through holistic intervention
Title: The Health MOT Roadshow
Topic: Health equity and inequality
PRESENTER: Stroud, Josh
Company/Organisation: Wellbeing People
Co-author 1: Ben McGannan, Wellbeing People

Introduction: Against a backdrop of low NHS Health Check uptake in Kent, in October 2014 Kent County Council (KCC) commissioned Wellbeing People to deliver a year-long pilot project predicated on the delivery of NHS Health Checks in the borough of Maidstone. Additional funding from 2 third sector organisations (Golding Homes and Mitie) and a contribution from Wellbeing People increased the value of the KCC commission three-fold. With third sector funding and a working partnership with the lead provider of NHS Health Checks in Kent (Kent Community Health NHS Foundation Trust [KCHFT]), The Health MOT Roadshow was conceived as a Tri-sector partnership between organisations in the public, private and third sectors. Following the pilot, The Health MOT Roadshow was re-commissioned in October 2015 to expand operation across Kent.

Aim: To tackle health inequality by providing convenient, opportunistic access to mainstream health and wellbeing services, particularly the NHS Health Check, in areas of deprivation within Kent.

Methodology: A specifically modified vehicle is used to deliver NHS Health Checks directly to locations in areas of deprivation within Kent. Health Check Advisors trained by KCHFT are supported by additional staff in carrying out NHS Health Checks and providing information, advice and referral pathways into mainstream health and wellbeing services. The vehicle is openly accessible to members of the public who are screened for NHS Health Check eligibility and offered a NHS Health Check ‘there and then’. Those ineligible or unable to participate ‘there and then’ are offered a Health MOT via the Interactive Health Kiosk which measures key indicators of cardiovascular health and offers a digital referral pathway to the NHS Health Check programme and KCHFT lifestyle support services. Feedback from users of the service and key performance indicators (KPIs) are recorded.

Results: To date, The Health MOT Roadshow has delivered 2547 NHS Health Checks, 7710 Health MOTs and 806 referrals to mainstream health and wellbeing services, with a daily average of 8 NHS Health Checks, 23 Health MOTs and 3 referrals. In the pilot year, The Health MOT Roadshow delivered 24.3% of NHS Health Checks and 30.5% of Health MOTs to residents of the most deprived areas of Maidstone as defined by quintiles 1 and 2 of the index of multiple deprivations. In year 2, 44.6% of NHS Health Checks and 48.6% of
Health MOTs have been delivered to residents of the most deprived areas of Kent as defined by quintiles 1 and 2 of the index of multiple deprivations.

**Conclusion:** The partnership with the third sector has facilitated the project in reaching into areas of health inequality by providing promotional channels, access to key locations and a presence at public facing events. From the beginning, the project has exceeded the KPI targets set by the commissioning body and has proved to be a successful method of engaging the public in areas of health inequality. This is a uniquely funded project, which demonstrates how resources can be pooled in order to deliver mutually beneficial outcomes around Health and Housing.
Abstract ID/11018

Title: Investigating the effect of age, gender, ethnicity and deprivation on the utilisation of NHS Health Checks in General Practice in Oldham

Topic: Health equity and inequality

PRESENTER: Beckett, Gloria

Company/Organisation: Oldham Metropolitan Borough Council

Co-author 1: Janet Ubido, Faculty of Education, Health and Community Liverpool John Moores University

Co-author 2: Gordon Hay, Faculty of Education, Health and Community Liverpool John Moores University

Background

NHS Health Checks is a national programme in England which aims to reduce overall cardiovascular disease (CVD) incidence and health inequalities in cardiovascular health. However, it is argued that some effective public health interventions may increase inequalities in health by disproportionately benefiting less disadvantaged groups. In order to determine whether NHS Health Checks are reaching those at greatest risk and therefore addressing CVD health inequalities, we aim to investigate the NHS Health Check programme, undertaken in an area of Greater Manchester which is noted for high levels of deprivation.

Method

NHS Health Check data from 1 April 2015 to 31 March 2016 from all commissioned GP practices in Oldham were extracted via a clinical management software tool. The data included the number of offered and of received health checks aggregated by age group, gender and ethnicity by where the patient was registered with a GP or by where the patient lived using Lower Super Output Areas. These data were linked to available measures of deprivation using Index of Multiple Deprivation (IMD) ranks or scores. Utilisation of the NHS Health Check was determined for each sub-group and compared with the NHS Health check total eligible population using descriptive analysis. To examine the variation and association of each sub-group on the utilisation of NHS Health Check, $\chi^2$ test and Pearson’s correlation were also used.

Results

Analysis revealed that women were more likely to attend a health check when invited (59.3%) than men (48.5%). When examining age, the 60-74 year olds were more likely to
be offered a NHS HC (28.3%) than the 40-49 and 50-59 age groups (17.8% and 18.2% respectively), however there was no significant difference in uptake rates. In terms of ethnicity, the Asian population were more likely to be invited (32.8%) and receive a health check once invited (24.7%) compared to the white population at 26.0% and 17.4% respectively. Those in the most deprived quintile were more likely to be invited and receive a health check when offered (73.4%) compared to those in the least deprived quintile (13.4%).

**Conclusion**

It would appear that the NHS HC programme in Oldham is successful in reaching those from the Asian and deprived communities who are potentially at greater risk of CVD. However, it is less successful in inviting the younger age groups and encouraging men to accept an NHS HC. Therefore, new and innovative approaches will need to focus on targeting these two ‘at risk’ groups in the future.
Experience of communicating cardiovascular risk to the general population

Introduction

NHS Health Checks means that GP databases are a ready repository of cholesterol data that can be quickly and easily analysed to underpin FH identification. The Royal Free searched 49,975 GP records identifying and genetically confirming mutations in 22 people with 73 potential cascades. This work also identified a gap for tackling the risk factors driving the burden of CVD and FH.

57% of the practice population was made up of those under the age of 40 years of which 84% had never had a cholesterol test. This age group represents those who provide the biggest cost savings for the NHS from a perspective of early identification and prevention – the number of deaths for <35 from MI has remained fairly static since 2010. (BHF, 2015)

Aim

To positively impact on the lives of those at greatest risk of premature cardiovascular disease and FH in particular. Our target audience is 16-40 year olds who are currently not engaged by existing NHS health checks.

Methodology

The Royal Free and Leyton Orient Football Club carried out a pilot project to target a younger audience.

On one day four health professionals for The Royal Free biochemistry department and HEART UK dietician delivered workshops to groups of 6-10 on CVD prevention to approximately 80 of their business and technology education council (BTEC) sports students (aged 16-19).
The workshops consisted of:

What is CVD, Healthy Eating, modifiable risk factors, non-modifiable risk factors and family history, with point of care cholesterol testing for those with a positive family history for premature CVD.

Pre-match, 3 health professionals engaged the public in a health promotion event.

**Results**

60% reported they would change their behaviour in relation to eating a healthier balanced diet.

18 people had a positive family history for premature CVD, 16 of who agreed to point of care cholesterol testing. 5 people had a positive family history for diabetes mellitus and 1 person had significantly raised BP.

Approximately 100-150 people were spoken to pre-match and took health promotion literature.

18500 impressions on HEART UK tweet,

1400 views of press release via club web site

Advertisement within match-day programme

**Conclusion**

Despite being athletes almost 90% were not eating their 5 a day, although all were meeting the recommended exercise levels. The exercise levels and young age probably accounted for the good anthropometric measurements observed.

Although there were relatively few smokers, those who did smoke were unaware of the effects of smoking on their cardiovascular system and how it would affect their athletic performance.

Whilst this was an ideal group for communicating general CVD risk and diet in particular they were not an ideal target audience for FH, many of their parents were still in their 30’s and 40’s making the pedigree drawing of limited value. Interestingly all the tutors accompanying them (aged 25-30) were more engaged, suggesting this is perhaps the age group that we should be trying to engage for maximum benefit.
Abstract ID\11034

Title: Determining the effectiveness of the NHS Health Check for patients identified as high risk by assessing the patient pathway journey post 6 weeks

Topic: Communicating CVD risk

PRESENTER: Michelle Whittaker

Company/Organisation: Salford City Council

Co-author 1: Anna Cooper, University of Salford

Background: Cardiovascular disease (CVD) is a Public Health concern due to the significance of the burden of disease in the UK, despite it being a complex issue reducing this burden is seen as a key priority (Murray et al., 2013; Artac et al., 2013). Between 1980 and 2013, age-standardised CVD death rates declined by 69% in England, yet it is deemed that approximately a quarter of CVD associated deaths are preventable (British Heart Foundation (BHF) 2015).

Aims and objectives: The aim of this research was to determine how effective the NHS Health Check programme is for patients at high risk of CVD (assessed using a QRisk2 score greater than 10%).

Method: This study interviewed patients six weeks after having their NHS Health Check. The aim was to explore patient’s views and experiences and examine any reported onward referrals, the patient pathways, any changes or new medications and if any lifestyle interventions were delivered. Ten patients were interviewed using a semi-structured topic guide and prompts to give flexibility for patient’s responses. The interviews were transcribed and thematic analysis was completed to identify commons themes.

Results: Overall six themes were identified which were split into two areas (people and NHS Health Check), with nineteen sub-themes. This research identified a wealth of information about the participants’ views and experience of the NHS Health Check; however, it also highlighted some areas that require improvements and provided recommendations for service improvement. The interviews were open to equal numbers of males and females, however seven females attended interviews compared to three males. The age range was between 55 and 74 and they were all White British or White other.

The complex delivery model of the check includes a number of elements and this research highlights inconsistencies within one GP practice and which was seen to affect the impact of the NHS Health Check. Generally, the emphasis of the check was placed on being free from ill health and not enough on prevention of disease. There was a lack of lifestyle risk
management, referrals to services and follow up. The check was valued by the patients as it provided reassurance of health, yet there were missed opportunities for supporting behaviour change using a care pathway. There were inconsistencies with the methods of feedback and some missing feedback altogether.

**Conclusion:** The inconsistencies throughout the NHS Health Check highlight the challenge of the check to produce sustained change and be an effective tool. It is of concern that these inconsistencies were identified in just one GP practice and it is therefore expected that a wider review would highlight even greater inconsistencies. For the small sample included in this study the lack of lifestyle risk management and the inadequate follow-up support offered means the conclusion is that for these patients the NHS Health Check was not successful in demonstrating effectiveness of risk assessment of CVD.
**Abstract ID 11071**

**Title:** The effectiveness and cost-effectiveness of a very brief pedometer-based intervention (Step-It-Up) delivered as part of the NHS Health Check: The VBI trial.

**Topic:** Physical activity

**PRESENTER:** Mitchell, Jo

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**Co-author 1:** Sally Pears, Cambridge University

**Co-author 2:** Wendy Hardeman, University of East Anglia

**Co-author 3:** Joana Vasconcelos, Imperial College, London

**Co-author 4:** Toby Prevost, Imperial College, London

**Co-author 5:** Vijay Gc, University of East Anglia

**Co-author 6:** Ed Wilson, Cambridge University

**Co-author 7:** Stephen Sutton, Cambridge University

**Introduction:** Despite evidence that adults who are physically active for just 15 minutes a day have a 14% reduced risk of all-cause mortality, the majority of adults in England do not meet current guidelines. There is a need therefore to develop scalable physical activity interventions that can be made available to the greatest number of adults. Physical activity interventions can be effective at increasing physical activity however little is known about the effectiveness and cost-effectiveness of very brief interventions (VBI) (<5 minutes). As the focus of the NHS Health Check programme is on risk screening and management, it was an ideal platform in which to deliver a very brief physical activity intervention.

**Aims:** To assess the effectiveness and cost-effectiveness of a pedometer-based very brief intervention (VBI) (Step-It-Up) to increase physical activity when it was delivered as part of the NHS Health Check.

**Method:** We conducted a randomised controlled trial in the East of England with 1:1 individual randomisation, comparing the NHS Health Check with the Health Check plus Step-It-Up. Step-It-Up includes behaviour change techniques such as action planning, goal-setting, self-monitoring and feedback to encourage adults to increase physical activity through a face to face discussion, pedometer use and written materials. The primary outcome was measured at 3 months using an Actigraph accelerometer to record accelerometer counts per minute. Secondary outcome measures included step counts per day.

**Results:** 1007 participants, aged between 40 and 74 years, were recruited from 23 GP practices. 62% of participants were female with a mean age 56 and predominantly in non-
manual occupations. 31% of the cohort was inactive or moderately inactive at baseline. The intervention effect for accelerometer counts per minute and step counts per day (95% CI), adjusted for gender, five-year age group and practice were 8.8 (-18.7, 36.3); p=0.53 and 242 (-172, 656); p=0.25 respectively.

**Discussion:** If the VBI is genuinely ineffective, explanations include whether the NHS Health Check is the right environment in which to deliver VBIs. In order to access the greatest number of adults, Step-It-Up was delivered during the risk assessment component of the health check (before the vascular risk score had been calculated) and did not exclude patients who were already active. Our sample therefore may have been too physically active. Indeed, the step count of our control group at follow-up exceeded the national average (3000 to 4000 steps per day – NHS Live Well) but this may have been a Hawthorne effect. Intervention fidelity may also have been insufficient although our preliminary trial of three VBIs showed good fidelity of delivery. We would not recommend commissioning Step-It Up as part of NHS Health Checks on the basis of these results however, the cost-effectiveness data analysis is ongoing which will show the expected cost and expected consequences of the VBI intervention, plus associated decision uncertainty.
Background

Cwm Taf is an area of deprivation in Wales with high levels of obesity in pregnancy: 33% of pregnant women are classified as obese. Obesity in the general population is rising and obesity in pregnant women is also increasing. Obesity in pregnancy is related to a number of serious health conditions for both the mother and the child. Pregnancy is described as a ‘teachable moment’ when women reconsider their health priorities. It is a time when women who are already obese need help to manage their weight gain during pregnancy to realise health benefits for themselves and the child. This paper describes a nutritional intervention to help obese pregnant women manage gestational weight gain. A secondary aim of this study is to monitor the body mass index (BMI) of the child at 4 years using the Childhood Measurement Programme.

Methods/Design

The intervention will be offered to all women who have a BMI ≥ 30kg/m² are 18 years of age or older with a singleton pregnancy, understand sufficient English to participate, have no history of disordered eating, diabetes or gestational diabetes and reside in the Cwm Taf University Health Board area. The control group will be a retrospective cohort of women meeting this same description who have been through standard care in the six months preceding the intervention period in the same area. The intervention is based on three theoretical components, motivational interviewing, self-monitoring and building self-esteem through group activities. The intervention consists of seven sessions lasting 1.5 hours each, this will include sessions on portion size, healthy foods, foods to avoid in pregnancy and managing cravings. There will be one practical cooking skills session. Group sessions will commence at the beginning of the second trimester led by a Healthy Lifestyle Support Worker. Weight will be assessed at baseline (12 weeks gestation), and again at follow-up: 36 weeks gestation. Confounding factors including a range of socio-economic and socio demographic factors and chronic illnesses will also be reported. Changes to dietary behaviours will be assessed at the end of the 7 week intervention. Self-esteem will be assessed at the beginning and end of the intervention. Focus groups will be used to assess participant and staff satisfaction with the intervention and fidelity to the protocol.
Discussion

Our study responds to the increasing need to meet a new demand for obese women in pregnancy to manage their gestational weight gain. This novel intervention aims to find a solution which is tolerable for obese women, practicable, replicable and cost effective. The intervention has been built on best practice using the evidence base and interviews with experts in the field to draw out important features to be included in any intervention. It is designed to be easily implemented in other areas with a bespoke set of resources for staff and participants to follow.
Abstract ID\11010

Title: Linking Community Weight Support to Opportunistic NHS Health Checks in Salford

Topic: Weight management

PRESENTER: Eden, Angela

Company/Organisation: Salford Health Improvement Service

Co-author 1: Taruna Patel, Salford City Council

Background

Salford Health Improvement Service is a public health provider service that has been delivering community based health and wellbeing interventions in Salford since 2004. The service is delivered through eight neighbourhood based teams that are embedded directly in the communities they serve. The service puts considerable emphasis on the process of engaging with and developing communities, alongside the direct delivery of health and wellbeing programmes. As the staff delivering the service are located within the neighbourhoods they serve, they are able to develop positive and productive relationships on an equal footing with community members, where by the staff are viewed as knowledgeable and supportive, but also as approachable. The service is successful in engaging with some of the most socially excluded groups of people within the city to build their skills and confidence to make small but significant changes to their lives and lifestyles.

In 2013 the service began delivering NHS Health Checks to residents in community settings using an outreach and engagement model to target those who may be high risk, but least likely to access services within primary care. The model proved to be successful with over 1800 NHS Health Checks delivered opportunistically by the service since the programme began. During the programme, frontline delivery staff identified a need to establish a community based weight support intervention that appropriate clients could be directly hand-held into. The intervention needed to be flexible, open-ended, and locally accessible and provide opportunities for peer support. As such the Salford Weigh Ahead programme was established with a direct link to the NHS Health Check programme. The programme focussed around healthy eating and behaviour change to help people set realistic and achievable goals.

Setting

Community venues in Salford, North West England including church halls, community centres, schools, pubs and social clubs.
Methods

Data is drawn from measurements taken from 412 participants who attended the Weigh Ahead programme between January 2015 and September 2016.

Results

There were 233 clients who completed the Weigh Ahead programme during the study period, which means that there was a drop-out rate of around 43%. Of the clients who stayed with the programme over a six-week period or longer 88% lost weight, the average weight loss was 2.4kgs.

Conclusion

The Weigh Ahead programme has been developed to most effectively meet the needs and expectations of local Salford residents. There is a focus on healthy eating, behaviour change and gaining control, meal planning, understanding labels, and building peer support. Participants also receive a Healthy Lifestyle Pass with credit on to undertake exercise sessions as local venues.

The evaluation has demonstrated how neighbourhood based services are able to tailor interventions and act responsively to shift resources to meet locally identified needs at relatively short notice, in this case following the delivery of community based NHS Health Checks. Neighbourhood based providers are able to develop local interventions that are deemed acceptable and accessible for residents and as such provide effective outcomes around prevention.
Title: Investigating the Management of CKD Patients in the Community

Topic: Primary care risk management

PRESENTER: Maxwell, Michael

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Co-author 1: Duncan Mackenzie, St Johns Group Practice, Greenfields Lane, Doncaster, South Yorkshire DN4 0TH

Background: Chronic kidney disease (CKD) is a growing public health problem with a prevalence of 8.5% in the UK. At the end of 2005, 41,776 people in the UK were supported on renal replacement therapy (RRT), with a 5% annual increase in prevalence of people on RRT since 2000. CKD has significant health implications and is associated with an increased risk of cardiovascular disease, diabetes and hypertension. The UK Renal Registry pointed to late referrals as a cause for a large proportion of morbidity and mortality in the UK. The mean percentage of patients referred late, remains at 30% unchanged from 2000.

Purpose: The aim of this audit was to compare the management of CKD patients at St. Johns Group Practice against NICE guidelines to identify deficiencies in care at a local level, in order to understand the implications on the wider scale.

Methods: Retrospective data from 50 patients was collected using the practice’s online records. NICE guidelines during the time of this audit recommended that all patients with CKD be; 1. diagnosed and graded correctly 2. have annual eGFR check 3. non-diabetic patients with CKD and hypertension and ACR 30 mg/mmol or more should be offered ACE inhibitors or angiotensin-II receptor blockers (ARBs) 4. referred for specialist care if stage 4 or 5 CKD, proteinuria or rapidly declining eGFR. The audit was conducted in 2014 and re-audited in 2016.

Results: We found that 22% of patients were not correctly graded according to NICE CKD criteria with 4% receiving a CKD grading of 3 or less when they satisfied a grading of 4 or 5. In the re-audit although double the amount were wrongly graded (42%) none were undergraded and 76% of those wrongly graded no longer qualified as kidney disease. 24% of the patient group were not receiving annual eGFR checks, up from 14% on the initial audit. 86% of CKD patients with diabetes achieved their target blood pressure up from 40% on the initial audit. 68% of those without diabetes achieved their target blood pressure unchanged from previously. Of the 26 patients who qualified for a referral according to NICE criteria, only 4 (15%) were under specialist care which had improved to 40% on the re-audit.
Discussion: The re-audit demonstrated that with better risk factor control in CKD patients, especially in those with diabetes, significantly less patients qualified for the definition of CKD under NICE guidelines. The results show that there still remains a need for lower referral threshold. Ample time is needed to discuss and plan future management with patients in a specialist care setting. Failure to provide such notice is often followed with poor outcomes.
Title: NHS Health Check Outreach Service; a pilot
Topic: Primary care risk management
PRESENTER: Smith, Natalie
Company/Organisation: North Yorkshire County Council
Co-author 1: Jacqui Fox, North Yorkshire County Council
Jennifer Loggie
Co-author 2: Clare Beard, North Yorkshire County Council

Introduction

North Yorkshire County Council launched an NHS Health Check pilot outreach service in 2015. This targets those with the highest risk of developing vascular disease providing an agile, community-focused service that supports increased uptake.

Aim

To identify and reduce the risk of cardiovascular disease by improving access to the NHS Health Checks service, in particular for those at higher risk i.e. farming community and those living in Scarborough.

Methodology

In November 2015, North Yorkshire Public Health team implemented a pilot service in addition to the county-wide NHS Health Check service delivered in primary care, to address health inequalities.

Evidence suggests that those in farming-related occupations have increased risk of cardiovascular disease. There are an estimated 17000 people employed in farming related occupations across North Yorkshire.

Scarborough has a higher prevalence of premature death from cardiovascular diseases, compared to the national average and to North Yorkshire. An outreach service, delivered in community settings, was identified as the most appropriate way to address this.

Results

The following table provides an overview of the outreach pilot service performance to 31st August 2016.
Total health checks completed

<table>
<thead>
<tr>
<th>Health Check</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Health Check</td>
<td>359</td>
</tr>
<tr>
<td>Targeted Health Check</td>
<td>162</td>
</tr>
<tr>
<td>Farming Health Check</td>
<td>47</td>
</tr>
</tbody>
</table>

Findings and lessons learned

Farming outreach service

1. A form of health check is delivered by another organisation in North Yorkshire. The target audiences are the same. Although this check is less comprehensive than the NHS Health Check, the provider had established strong relationships with farmers and farming-related venues.
2. Clients reported that the time required to complete an NHS Health Check is too long. Although less comprehensive than the NHS Health Check, the alternative check delivered by the other organisation is more suitable, at under 20 minutes per check.
3. Feedback from those receiving an NHS Health Check through the outreach service has been positive, with a number being made aware of their cardiovascular risk for the first time.

Scarborough Outreach service

1. The number of NHS Health Checks completed in Scarborough increased gradually throughout the pilot.
2. The new provider required time to establish relationships in the area.
3. Where clinics were delivered in target wards, a significant number of people who engaged in the service do not reside in these areas.
4. Footfall has been lower than expected in target ward venues, resulting in the provider completing significantly more “general”, than “targeted” health checks.
5. There has been a high level of interest in the service but that a large number of people engaging in the service did not meet the eligibility criteria.
6. As a commissioner, we underestimated the time required for the Practices to follow-up on referrals.
7. Risk was identified in relation to follow-up of patients referred from outreach to GP, where referrals are not accepted.
8. There appears to be significant interest in delivering NHS Health Checks in a workplace setting.

Conclusion
A full review of the NHS Health Check outreach pilot service has allowed us to identify the benefits of providing an outreach health check service, serving some of the most seldom seen populations in North Yorkshire.
Abstract ID: 11069

Title: ‘Fit4Life’ Brent: reducing the risk of developing long term conditions for patients identified at high risk by their NHS Health Check; A service evaluation

Topic: Health outcomes

PRESENTER: Hamid, Farhat

Company/Organisation: London North West Healthcare NHS Trust

Introduction

Cardiovascular disease causes more than a quarter of deaths in the UK (26%)\(^1\), the majority of which are considered preventable through modification of identified lifestyle behaviours\(^2\).

A cluster of related factors inclusive of high cholesterol, high blood pressure, elevated blood glucose (in the pre-diabetic range) and obesity are known to be associated with increased cardiovascular disease risk and incidence of diabetes.

Individuals identified at high risk of future disease, benefit from support in behaviour change through multi-disciplinary intensive lifestyle programmes aimed at sustainable change to knowledge, attitude and practices with the objective of self-management\(^3\).

This service evaluation aims to demonstrate the effectiveness of a local Dietetic led cardiovascular disease and diabetes prevention programme in reducing population risk measured through these intermediate parameters.

Methods

Between April 2015 and March 2016 individuals (n= 717) aged 40-74 years were referred by their local Primary Care Physician onto the Fit4Life programme. These patients were identified through their NHS Health Check with:

- Non-diabetic hyperglycaemia (pre-diabetes) - HbA1c of $\geq 42$ and $< 48$mmol/mol or Oral Glucose Tolerance Test $\geq 7.8$ and $< 11.1$mmol/l
- Total cholesterol level $\geq 5$ mmol/l
- BMI $\geq 30$ (27.5 if Asian) and $< 40$ (kg/m\(^2\))
- Blood pressure $\geq 140/90$ mmHg

A behavioural change approach was fostered throughout the programme. Dietitians focussed on empowering patients by encouraging self-management and providing each patient with tailored goals for weight loss, improving diet, and increasing exercise. Participants had their anthropometry, exercise level and dietary intake measured.
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Manchester 9 February 2017

throughout the programme and these results, alongside biochemistry, were compared pre and post intervention.

Participants received:

- intense pre-assessment goal setting
- 3 personalised 1:1 appointments with a dietitian
- structured weekly group sessions:
  - nutrition
  - physical activity
- healthy cooking course
- motivational telephone and email support
- 3 month’s free gym membership

Results

- Results demonstrate a 4% weight loss average at 3-6 months (n=51).
- Average decrease in waist circumference was 2.5%
- Data for the first 6 months (n= 92) demonstrates 41% of patients had moved out of pre-diabetes when their HbA1c was re-tested.

Conclusions

The results illustrate the effectiveness of the programme in a real-life setting and demonstrate short-term improvements in both anthropometric and biochemical measures.

Discussion

- Longer term studies are required.
- The results are comparable to the DPP trial which demonstrated a 58% reduction in diabetes incidence.4
- Results from Fit4Life could be influential in the development of future models for the prevention of CVD and Type 2 diabetes amongst high-risk individuals anywhere in the world.

References

1. British Heart Foundation, Cardiovascular Disease Statistics (2014)
2. Cardiovascular Disease Risk Factors, World Heart Federation (2016)
4. Diabetes Prevention Programme Research Group. 10 year follow up of diabetes
incidence and weight loss in the Diabetes Prevention Programme Outcomes Study. The Lancet; 374(9702):1677-1686
Title: Evaluation of WatchBP devices in the diagnosis of Atrial Fibrillation in a Primary Care setting

Topic: Health outcomes

PRESENTER: Honney, Rory

Company/Organisation: HEE Wessex

Background

Atrial fibrillation (AF) is a leading cause of preventable stroke but 20% of patients remain undiagnosed. Modified blood pressure devices, such as Microlife’s WatchBP, have been shown to be more sensitive and specific than manual pulse palpation when used to opportunistically screen for AF. There is limited literature on the clinical impact of introducing such devices into UK general practice (GP).

Methods

This natural experiment used routinely collected GP data from the Hampshire Health Record (HHR) covering 146 practices (1,146,163 people), to evaluate the clinical utility of introducing WatchBP devices to chronic disease clinics in 44 practices in West Hampshire Clinical Commissioning Group (WHCCG). The remaining 102 practices were controls. Practice rates of incident AF were compared two months after introducing WatchBP, and Negative Binomial Regression was used to adjust for practice level confounders. An internationally recognised stroke risk assessment tool, CHA2DS2-VASc, was used to assess for changes in newly diagnosed AF severity.

Results

The introduction of WatchBP devices was associated with an adjusted 26% relative increase in AF detection rate compared to current best practice (Incident Rate Ratio=1.26, 95% CI=1.02-1.56). The rate of high risk AF diagnoses also increased (IRR=1.25, 95% CI=1.00-1.57). The mean absolute increase rate of AF detection observed in the intervention practices was 0.4 cases per 1000 person years, which extrapolated throughout WHCCG would be 188 additional AF diagnoses annually. The proportion of newly diagnosed high risk patients receiving anticoagulation was not significantly different between WHCCG (72.21%) and control (71.57%) practices ($\chi^2$=0.0456, p=0.831).

Conclusions

Given the observational nature of the study design and with limited follow up time and a lack of data on device usage, these results should be interpreted as preliminary. However,
the study does suggest that WatchBP may increase rates of AF diagnosis in primary care, ultimately contributing to stroke risk reduction.
Abstract ID\11003

Title: Check4Life Community Health Check Programme - Evidencing Health Outcomes in County Durham
Topic: Health outcomes
PRESENTER: Hawthorne, Amy
Company/Organisation: County Durham and Darlington Foundation Trust
Co-author 1: Claire White, County Durham and Darlington Foundation Trust

Introduction

County Durham and Darlington NHS Foundation Trust (CDDFT) Health Improvement Service developed, implemented and rolled out a bespoke Check4Life (C4L) Community Health Check (CHC) Programme across County Durham in a range of settings between April 2012 to current date, during which time the programme has been continuously evaluated and reviewed in order to inform the local, regional and national emerging evidence base in terms of good practice and to ensure continuous service improvement.

The C4L CHC Programme aims to target residents of County Durham who do not currently engage with or access traditional NHS services and identify individuals who may be at heightened risk of vascular disease.

The C4L CHC Programme incorporates the following targeted delivery interventions:

- Workplace Events
- Community Events
- Large Scale Events

Aim

The ultimate aim is to evidence health impact outcomes (quantitative and qualitative) directly attributed to the C4L CHC Programme.

Methodology

A C4L CHC Programme Quality Report was jointly developed with Health Diagnostics Ltd to evidence health impact and compliance to C4L Quality Assurance (QA) Standard Operating Procedures. The Quality Report highlights the following aspects:

- Number of C4L Health Checks delivered
- Demographics
- Health results above referral guidelines
• Brief advice/referral pathways

C4L Client Experience Questionnaires and individual Case Studies are also used to ‘add value’ and illuminate the data to evidence health impact outcomes and service user experience and service satisfaction. Quality improvement processes were implemented to increase the number of Client Experience Questionnaires completed.

Results

Quarter 1 C4L Client Experience Questionnaire feedback demonstrates that:

• 98% have more knowledge of their heart health and how to improve or maintain this
• 98% will try to make healthier lifestyles choices
• 94% feel more confident to make lifestyle changes
• 100% would recommend a C4L Health Check to other people

Clients also reported that C4L Health Checks were informative, personal, important and convenient.

Quarter 1 Quantitative Outcomes:

• 541 Check4Life Health Checks were conducted
• 75 Check4Life Workplace Events were delivered
• 49 Check4Life Targeted Events were delivered
• 1 Large Scale Event was delivered

Quarter 1 Qualitative Outcomes:

• 490 clients were identified with a low CVD Risk
• 46 clients were identified with a medium CVD Risk
• 5 clients were identified with a high CVD Risk and referred to their GP for further follow up
• 469 clients were provided with brief lifestyle advice
• 35 clients were identified as having a high TC/HDL Ratio
• 84 clients were identified as having a high risk of developing Diabetes
• 8 clients were identified as having a very high risk of developing Diabetes
• 164 clients were identified as pre-high Blood Pressure
• 166 clients were identified as having high Blood Pressure

Conclusion

A combination of both quantitative and qualitative data is vital to evidence and demonstrate the effectiveness of the C4L CHC Programme in terms of health impact
outcomes; continuous service improvement and validation of the delivery of standardised, consistent, high quality C4L Health Check Services.
Abstract ID: 11068

Title: Launch of refreshed training products & materials for dementia awareness raising through the NHS Health Check

Topic: Dementia

PRESENTER: Mitchell, Susan

Company/Organisation: Alzheimer's Research UK

Co-author 1: Dominic Carter, Alzheimer's Society

Co-author 2: Carly Tutty-Johnson, Public Health England

Co-author 3: Julie Weir, Public Health England

Introduction

The NHS Health Check introduced the mandatory dementia awareness raising component to people aged over 65 years in 2013. Eligible people are currently provided with information on the signs and symptoms of dementia, and factors which may increase the risk of developing dementia.

An independent qualitative evaluation of this mandatory component was undertaken by Solutions Research and identified a pressing need for further training to increase professional awareness and confidence in promoting dementia risk reduction messages.

Aim

The project seeks to address the need for further training by reviewing and refreshing the training resources and materials available for dementia risk reduction, to support practitioners delivering the NHS Health Check. The new training products and resources aim to embed the key messages on dementia risk reduction, cover advances in understanding around risk factors from the last three years, and also focus on how best to deliver these to achieve greatest impact on behaviour change. It is intended that this refresh of training will improve the quality of the current mandatory dementia component and enhance the patient’s NHS Health Check experience. The project has been led by Public Health England, Alzheimer’s Society and Alzheimer’s Research UK, in partnership with Health Education England.

Methodology

Existing training products and materials were reviewed by a cross partner working group, and recommendations for change were made. An independent evaluation of the user experience of the NHS Health Check was undertaken to establish need. Revised training resources are now in development, aiming to facilitate a range of ways to share relevant
information, and will be consulted upon and user tested before roll out.

Results

The review of training products and materials is still currently in progress until end January 2016, and therefore the findings will be presented at the conference. We anticipate being able to showcase the revised training products and provide a practical training session for attendees on raising awareness of dementia risk reduction. We will also be able to feedback on findings from the evaluation of the mandatory component.

Conclusion

The training products and materials will enhance the quality of the existing mandatory dementia component of the NHS Health Check and will also provide potential for extending conversations on dementia risk reduction to people in mid-life, subject to the outcome of the NHS Health Check dementia pilots (separate abstract submitted).
Abstract ID: 11067

Title: Dementia and Risk Reduction: Extending messaging to 40-64 year olds through the NHS Health Check

Topic: Dementia

PRESENTER: Mitchell, Susan

Company/Organisation: Alzheimer's Research UK

Co-author 1: Dominic Carter, Alzheimer's Society

Co-author 2: Carly Tutty-Johnson, Public Health England

Co-author 3: Julie Weir, Public Health England

Introduction

The NHS Health Check introduced the mandatory dementia awareness raising component to people aged over 65 years in 2013. Eligible people are currently provided with information on the signs and symptoms of dementia, and risk factors which may increase the risk of developing dementia.

Since 2013 there has been increasing recognition of the importance of mid-life actions to reduce the risk of developing dementia, including the publication of the NICE public health guidance (2015) on midlife interventions to reduce the risk of developing dementia in later life. Currently public understanding of the potential to reduce the risk of developing dementia is very low; in a recent poll only 25% of British adults said they thought it was possible for people to reduce their risk of developing dementia, compared with 83% for diabetes and 49% for cancer (YouGov poll for ARUK, 2016).

Aim

The project seeks to understand whether the risk reduction messaging delivered within the NHS Health Check improves the awareness and understanding of those receiving a Health Check on this topic. It involves testing and evaluating approaches to incorporating dementia awareness and risk reduction messages within NHS Health Checks for all people aged under 65 years. The project has been led by Public Health England, Alzheimer’s Society and Alzheimer’s Research UK, with the independent evaluation undertaken by Solutions Research.

Methodology

Four pilot areas across England have offered dementia awareness and risk reduction messaging to all people attending an NHS Health Check. For the 40-64 age group this intervention has been as simple as highlighting that common cardiovascular risk factors...
are also likely to help reduce the risk of developing dementia.

A sample of 40-64 year olds having the Health Check, and the staff delivering the Health Check were contacted by the evaluation team within twelve weeks. The evaluators assessed whether there is improved awareness of the potential to reduce the risk of developing dementia and sought to understand the feasibility of implementing this part of the dementia component to all ages within the NHS Health Check.

Results

The pilots are still currently in progress until the end of 2016, and therefore the findings will be presented at the conference. We anticipate being able to comment upon the:

- Feasibility for services of extending the dementia risk reduction component of the Health Check to all ages.
- Impact of the enhanced NHS Health Check on individual’s knowledge and awareness of dementia risk reduction.
- Impact of the intervention on individuals’ intention to change behaviour.
- Whether any differences in the delivery of the intervention between pilot sites has any effect on awareness and understanding of individuals.
- Professional awareness and confidence in promoting dementia risk reduction messages, including further training requirements, resources and support.
- Implications for services and commissioners.
- Any further longer-term evaluation that will be required.

Conclusion

If the pilots prove to be successful, the findings will be used to build the case for dementia risk reduction messaging for 40-64 years to be included in all NHS Health Checks across the country.
Abstract ID: 11073

Title: #onething

Topic: Behaviour change

PRESENTER: Din, Yasser

Company/Organisation: NHS Warwickshire North Clinical Commissioning Group

Introduction

The #onething campaign was launched in February 2015 as part of the prevention agenda from the Warwickshire North CVD Programme Board.

Aim

Public Health worked with the communications team, psychologists (Behavioural Insights), CCG and Borough councils to develop the #onething campaign that works both as a social media campaign and a face to face intervention. The idea is to support people to make one small change to individuals lifestyles which will in turn have a positive impact in their health & wellbeing and empower them to make further changes in their lifestyle.

Methodology

The approach harnessed the power of MECC and mini health checks (combination of BMI, lifestyles, diabetes and blood pressure). This option allowed opportunistic engagement with residents in high risk communities of Warwickshire North to undertake quick mini health checks and using the MECC approach to assist them to self-identify the issues they thought they needed to address and offer the relevant information and services. Individual’s details were then processed on the youronething.co.uk website which is designed to be interactive and engage the users. The process also includes regular emails which offers reminders to the user along with hints and tips to support them in achieving their pledge.

Results

With over 700 #onething pledges (many with photos) made by residents, where 85% of which are making progress or even achieving their pledge. A few have gone on to making more pledges. The campaign supports individuals to understand their health needs with mini health checks. The campaign undertook over 897 health checks carried out at 56 events which helped inform individuals their health needs and using the MECC framework
these individuals were supported with the relevant information and services that can help (leaflets, website and emails).

Of these mini health checks 25% of the individuals were referral to their GP as they had high blood pressure / blood sugar level readings so that they could get the appropriate diagnosis, support and help. More recently we have been targeting our resources to the high risk demographics where we are witnessing 42% of the screened population having unknown high blood pressure / blood sugar level readings and being referred to their GP.

**Conclusion**

A thorough evaluation of the service will be undertaken in the new year, and if the evaluation provides a strong basis for reinvestment, we hope to look at delivering this service over a longer more sustained period of time to target work places.
Abstract ID:11049

Title: Our USP is TSP! Methods to increase the uptake of NHS Community Health Checks

Topic: Behaviour change

PRESENTER: Simpson, Karen

Company/Organisation: Pennine Care NHS Foundation Trust

Co-author 1: Claire Devy, Pennine Care NHS Foundation Trust

Tameside Community NHS Health Checks aim is to identify people with cardiovascular risk factors and offer behaviour change support; to

1. Reach those least likely to access NHS Health Checks in GP surgeries

2. Encourage people with risk factors into local, free services.

3. Contribute towards local targets for full NHS Health Checks.

Community Health Checks are underpinned by a public health ethos: – so ‘mini’ checks are given to those ineligible due to age, medical condition or place of residence as an engagement and early intervention opportunity to support lifestyle change.

Staff completed the PHE Competency Framework and in 2015 they won the HEART UK NHS Health Check Awards category for ‘Best Impact on Patient Experience’.

One of the most challenging aspects of the service is how to engage new clients.

So what have we done to try and address this?

(T) Training - All Health Check Advisors have completed the C&G L3 Health Trainer Award, L3 Open Awards for Weight Management, L2 stop smoking training and a number of other training sessions on wellbeing topics to help widen the immediate support on offer.

(S) Sharing staff - Having the team embedded into the local health improvement service (Be Well Tameside) has allowed all Health & Wellbeing advisors to be trained to deliver the Health Checks, the Health Check Advisors also regularly shadow the Health and Wellbeing Advisors, which has allowed a mutual understanding of everything that is offered for clients who need lifestyle support.

(P) Piggybacking onto existing community events or working in partnership with local campaigns such as Tameside’s Hypertension campaign DON’T QUESTION IT CHECK IT!
allows the service to act in stealth mode and gives us the opportunity to promote itself whilst supporting other campaigns, it is the P that allows the service to have legitimate use of other campaigns to help promote the checks and lifestyle support available, However it also allows for the T and S elements to be utilised effectively to raise awareness of all campaigns and the support available in the community.

The example below shows the results of the Community Health Check team supporting the local Blood Pressure awareness campaign.

Denton Carnival (13th September 2016)
Invited by Public Health to support the Turning the Curve Hypertension campaign
Don't question it, Check it!

The offer
Blood pressure tests for all

Stealth mode
Once client engaged, ask for age range?
If in the Health Check age range, ask eligibility?
If eligible, offer to complete health check immediately or book an appointment at a community clinic.

Opportunity to promote
Give leaflet and ask to pass onto a friend who may also be eligible.

Outcome (3 hrs.)
46 blood pressure readings, 18 became full health checks, 4 health checks booked into community clinics, 6 referrals into ‘Be Well Tameside’

Conclusion
By not directly promoting the Community NHS Health Checks but by using other legitimate campaigns and events can be beneficial to services
Abstract ID:11022

Title: Motivational Interviewing to reduce CVD risk and improve health and wellbeing

Topic: Behaviour change

PRESENTER: Anstiss, Tim

Company/Organisation: The Academy for Health Coaching

Motivational Interviewing is a conversational style which help patients discover and strengthen their own reasons for change, and build their confidence (self-efficacy) about changing, within an atmosphere of compassion and acceptance.

Several research studies and systematic reviews support its effectiveness in helping people with, or at risk of, CVD make and sustain behaviour changes associated with reduce risk and improved health. It is a recommended interventional approach within several CVD related organisations guidelines.

Motivational Interviewing pays particular attention to the strengthening of such key relationship factors as empathy, warmth, trust, alliance and goal congruence - whilst providing the practitioner with a vehicle for sharing a wide range of proven behaviour change techniques such as decisional balance, values clarification, decisional balance, self-monitoring, feedback, implementation intentions and relapse prevention.

It helps to deliver such desired outcomes as: patient engagement and activation; shared decision-making; collaborative person-centred care planning; and self-management support.

This interactive session will provide attendees with a deeper understanding of what motivational interviewing looks and feels like, as well as its principles, processes, core skills and strategies.

We will also explore how motivational interviewing might be adapted for different contexts and settings, as well as how practitioners best go about developing skill in the approach if they so desired.

Sample References:


Translating the ACC/AHA Lifestyle Management Guideline Into Practice: Advice For Cardiologists From Experts in Nutrition Behavioral Medicine and Cardiology

Jan 06, 2016. American College of Cardiology.
Abstract ID\11059

Title: Sit, chat, take a photo, watch a film - ‘Something you can do’ - Raising awareness of the NHS Health Check program in Walsall

Topic: Patient engagement

PRESENTER: Chauhan-Lall, Nina

Company/Organisation: Walsall MBC

Co-author 1: Paulette Myers, Walsall Metropolitan Borough Council

Co-author 2: Alison Strain, Walsall Metropolitan Borough Council

Co-author 3: Rachel Parker, Walsall Metropolitan Borough Council

Introduction

Building on the momentum of the NHS Health Check (NHS HC) programme, established since 2010, an innovative advertising and marketing campaign was developed to raise awareness of the national programme and to encourage attendance:

- Target groups: men, BME community, areas with high CVD rates
- Stakeholders: GP Practices, Local Authority, Children’s Centres, Libraries, Parks and community groups
- NHS HC delivered through all Walsall GP Practices, four pharmacies, workplaces and community settings.

Methodology

Based on the health belief model, we developed and delivered a participatory Arts and Health project to increase local people’s health literacy, knowledge, and awareness and increase uptake of the NHS HC programme by changing perceptions and breaking down perceived barriers about the programme.

The campaign consisted of:

1. Designing invitations and Awareness sessions for target groups:

   - Engaging with men to find out who they listened to, barriers to taking up the NHS HC invitation and what would help them to attend.

   - Women asked who they influence, barriers men may face, what may encourage men to
have a NHS HC.

• Women and children created invitations for significant men in their life with personal messages encouraging them to attend a NHS HC.

2. **Mobile sitting room**: sofa, table, lamp, cushions and throws that tour local venues across the borough. This provided an informal environment with a non-clinical professional where people were invited to sit on the sofa and learn about or share their experiences of a NHS HC. Personal statements/images were added to the set as embroidery on cushions/throws or hand written on labels and attached to the display.

3. **Photo shoots** creating a local identity reflecting target audience eligible for a NHS HC or those who have had a NHS HC. Visual and written legacy reflecting the diverse population of Walsall through promotional materials using real-life stories.

4. **Short film** depicting real people and real stories. Anonymous reflection of people in target group and their interaction with a NHS HC.

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**Results**

We raised awareness of the programme through informal, non-clinical conversations and shared experiences in the target groups/areas.

Over 480 conversations in 19 different settings with over 600 invitations were given. Although there is no direct correlation to the number of NHS Health Checks received by the target population, the campaign will have contributed to the 56% of eligible people having received a NHS Health Check, ranking Walsall 5th nationally.

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**Conclusion**

The reach for this campaign was broad and the approach was semi-targeted.

The campaign provided an encouraging insight in engaging with local people using an informal approach to promote a health programme.

Recommendations for similar campaigns would be to create a method of tracing outcomes that are a direct result of the campaign identifying which individual elements have been the most effective.
Abstract ID\11037


Topic: Patient engagement

PRESENTER: Mittal, Ankush

Company/Organisation: University of Birmingham and Birmingham City Council

Co-author 1: Ankush Mittal, University of Birmingham and Birmingham City Council

Introduction:

In England, NHS Health Checks are offered every 5 years to persons aged 40-74 in order to manage the population burden of chronic vascular diseases, through earlier diagnosis and lifestyle interventions. The cost-effectiveness of the programme relies heavily on Health Check uptake rates.

Aims:

To understand the quantitative impact of patient and system based factors on the uptake of NHS Health Checks in Birmingham in order to inform future policy on improving uptake.

Methods:

Uptake rates (outcome) were modelled against 5 key predictor variables on which data was available (period 2014/15):

Patient based variables:

1. Ethnicity
2. Gender
3. Age
4. Deprivation (patient postcode 2010 IMD score)

System based variable:

1. Method of Invite

The relative effects of each variable were established quantitatively for each variable. All data was obtained using the MSDi data collection interface which communicates with GP information systems used throughout Birmingham.
Results:

Ethnicity: Small associations seen but no comment on significance due to incomplete data reporting. Improved completeness (approx. 90%) since April 2016 due to enhanced search algorithm - data to be modelled for conference Feb 2017.

Gender: Women significantly more likely to accept offers (+10%)

Age: Older clients slightly more likely to accept offers.

Deprivation: Deprivation was not a significant predictor of Health Checks uptake in Birmingham when patient LSOA IMD scores were correlated against LSOA % uptake (R sq. = 0.0025).

Method of Invite: Potentially significant role of method of invite on uptake – increased % LSOA uptake rates seen in LSOA areas with higher % verbal invite methods (R sq. = 0.5198).

Conclusions:

As studied in the wider literature, female gender and increasing age were positive patient predictors relating to higher uptake. Changing behaviour amongst males and younger invitees remains a resistant national challenge.

Interestingly, verbal inviting appeared to play a significant role in the uptake of Health Checks in Birmingham, suggesting that system based variables (e.g. method of invite) may be as important if not more important (as they may be easier to target) than patient based variables in any local strategy aiming to maximise Health Check uptake. The results may apply more widely to similar populations seen across England.

Learning outcomes for audience:

The results of this audit highlighted the relatively unexplored and apparently significant role that verbal inviting methods may be having on the uptake of Health Checks in Birmingham (and perhaps nationally). The audience is expected to consider the results in the context of their local systems/population, and consider the added value of verbal inviting methods in improving local Health Check uptake rates.

Further scope

Further modelling using logistic regression of uptake vs. predictor variables will be completed for the 2016/17 dataset given the enhanced completion of the ethnicity variable in this year's dataset - partnership work between University of Birmingham and Birmingham City Council. Preliminary findings to be available for Feb 2017.
NHS Health Checks (NHSHC) is a national programme designed to identify and manage Cardiovascular Disease (CVD) risk in adults aged 40 to 74 years. All adults not diagnosed with a chronic condition should be invited for an NHSHC where CVD risk is assessed based on measurements including blood pressure, cholesterol, and other patient information. Uptake of NHSHC, in Stoke-on-Trent and nationally, is below the 75% target and 66% stretch target set by Public Health England. Research has also shown considerable variation in uptake between practices. The reasons for this remain unclear.

Aims/Objectives

The aim of the research is to understand what practice staff believe influences NHS Health Checks screening uptake and to establish variation in programme implementation.

Methods

Semi-structured interviews were conducted with general practice staff (i.e., Practice Managers, Nurses, Health Care Assistants, and Administrators) involved in the implementation and/or delivery of NHS Health Checks. Interviews were conducted face-to-face or via telephone. Interview recordings will be transcribed for qualitative analysis using Thematic Analysis.

Results

Data will be presented from a total of 34 participants (x4 Data Quality staff, x8 Practice Managers, x7 Health Care Assistants, x9 Practice Nurses and x5 Administration staff) across 14 general practices. We anticipate the results will help understand practice influences on NHS Health Checks screening uptake, establish variation in implementation and staff perceptions of the programme. This will make a novel contribution to a poorly understood area, which can inform practice of influences they have on uptake of the national programme.
Abstract ID\11070

Title: Healthy Eating Apps: Towards Developing The Reminder Routine Reward Quality Assessment Framework

Topic: Using digital solutions

PRESENTER: McGeown, Amanda

Company/Organisation: University of Hertfordshire

Co-author 1: Ilhem Berrou, University of Hertfordshire

Background: Mobile technology is increasingly recognised as a promising vehicle to deliver health-related interventions given its potential to reach wider populations, relatively low cost, and personalised user experience. Smartphone penetration in the UK increased from 52 % to 81% of the population over the last four years. This innovation offers an unrivalled opportunity to provide healthcare support when and where is most needed. There is more than 40,000 health related apps including apps promoting healthy eating and weight management. Healthy eating apps using dietetic evaluation have been suggested to improve dietary assessment and induce healthy eating behaviour change. However, given the rapid growth of these apps, it is becoming increasingly difficult for users, healthcare professionals and organisations, and researchers to evaluate the quality of these apps and their potential to successfully deliver the intended healthcare interventions. The objective of this study is to develop a framework to assess the quality and potential of healthy-eating apps.

Methods: A comprehensive literature search (2011-2016) in Embase, Cochrane, Scopus, ScienceDirect, MEDLINE, TRIP, JMIR, Google Scholar and NICE evidence was conducted to identify relevant publications, appraise and synthesise the evidence to support the development of a framework for the quality assessment of healthy eating apps. We included studies that examined the content and effect of healthy eating mobile phone apps with a potential impact on healthy eating behaviour. Thematic analysis of the identified behaviour change techniques (BCT) reported in healthy eating mobile apps was used to identify the dimensions relevant to healthy eating behaviour change.

Key Findings: In total, 9481 abstracts were identified. Of those, eight papers met all the inclusion criteria. We identified the most frequently reported BCTs (n=15) in effective healthy eating mobile phone apps. These BCTs were then analysed to explore which categories of BCTs were used in healthy eating mobile phone apps and their effectiveness in inducing healthy eating behaviour change. The most commonly used BCTs were within the categories of “Reminder”, “Routine” and “Reward”. The “Reminder Routine Reward” or “the 3Rs” framework was then developed to assess the BCTs content of healthy eating...
apps and score their quality.

**Discussions and conclusions:** Healthy eating apps could potentially promote a healthy lifestyle and reduce the risk of cardiovascular and other conditions. The development of a standardised, evidence-based and objective rating tool could help classify and quality assess mobile apps for healthy eating. The 3R’s framework provides the requirements to develop evidence-based healthy eating apps. Further research is necessary to assess whether intensive theory-based mobile phone interventions with multiple BCTs have the potential to facilitate healthy behaviour change and management of chronic disease.

**Key words:** Healthy eating; mobile app; mHealth; behaviour change; health behaviour; quality assessment.
Abstract ID\11021

Title: HEART FAILURE CARDIAC REHABILITATION: TO EVALUATE THE USE OF PEDOMETERS IN IMPROVING CARDIAC REHABILITATION OUTCOMES IN PATIENTS WITH HEART FAILURE.

Topic: Using digital solutions

PRESENTER: Finlay, Jamie

Company/Organisation: Aneurin Bevan University Health Board

Co-author 1: Mark Harris, Aneurin Bevan University Health Board

Co-author 2: Jackie Austin, Aneurin Bevan University Health Board

Co-author 3: Kelly Brown, Aneurin Bevan University Health Board

Introduction

A Cochrane review of HF patients attending Cardiac Rehabilitation classes showed improvements in hospitalization and health-related quality of life measures, and also that it may reduce mortality in the longer term (Sagar et al 2015).

Recently research into the use of emerging technologies within cardiac rehabilitation examining pedometer interventions provides clear evidence that pedometer-driven physical activity interventions effectively increase daily physical activity in previously sedentary or irregularly active populations (Bravata et al 2007).

Method

The aim is to assess whether using pedometers, along with additional support from the cardiac rehabilitation team, would result in patients reaching more than 30 minutes of daily moderate intensity physical activity.

A dedicated HF programme was set up in the health board but in addition to the traditional tried and tested model, pedometer were given to patients to assess if the results of overall increased physical activity (as evidenced in the research trials) can be replicated in heart failure patients.

Data was taken at pre, post and 6 month following programme, each patient was asked to complete quality of life (QOL) scoring, activity levels and steps, as well as a six minute walk test.
Result/Outcome

The programme is due to finish in September 2016. Currently 26 patients have completed the programme with an equal proportion of men to women.

The provisional results at present appear to show improvements to steps per day, daily activity levels, QOL measures and functional capacity testing as the programme progresses. The positive effect of rehabilitation seems to be highlighted in this small study so far.

The study has been affected by poor attendance and completion rates.

The pedometer data so far appears to show that as the programme progresses the patients increase their steps, which correlate with the improvement to functional capacity and QOL.
Abstract ID: 11078

Title: South Asian Community Health Education and Empowerment (SACHE) programme for Diabetes Prevention

Topic: Diabetes prevention

PRESENTER: Lad, Amal

Company/Organisation: South Asian Health Foundation

Co-author 1: Mahendra Patel, South Asian Health Foundation

Background

Approximately 6% of the UK population are registered with diabetes and this number continues to rise. South Asians have a significantly greater risk of developing Type 2 diabetes, in comparison to the European white population and over 400,000 South Asians suffer with Type 2 diabetes in the UK. South Asians also have an earlier age of onset with an increased risk of disease related complications with cultural factors providing significant barriers to effective management.

The South Asian Community Health Education and Empowerment (SACHE) programme for diabetes is a public health initiative created and implemented by the South Asian Health Foundation (SAHF) to improve understanding and awareness of diabetes within these communities.

Aims

The main aims of the SACHE programme are as follows:

- To engage with South Asian communities at local community centres and places of worship.
- To deliver culturally appropriate education to improve awareness of the prevention and management of diabetes.
- To utilise various educational tools including film, literature and presentations through understanding specific cultural needs and ideas.
- To formulate insights and explore beliefs regarding the challenges in self-management of diabetes.

Method & Evaluation

SAHF delivered 11 events across the UK at community centres, mosques, gurdwaras and temples targeting an audience of newly diagnosed diabetics, carers and healthcare professionals. Events were delivered in collaboration between local doctors, nurses,
pharmacists, dieticians and community leaders. Each event followed a structure beginning with an introductory session outlining the symptoms, complications and early warning signs of diabetes. Screening and diagnostics services offered by the NHS were also covered. A short comedy film titled “Meethi Baathein (Sweet Talk)” was then shown either in English or Hindi and demonstrated the importance of healthy lifestyle and positive self-management. Feedback from the film was positive and free copies of the DVD were distributed at each event. The session concluded with questions and answers leading to useful discussions clarifying issues such as safe fasting and gave opportunity to share experiences of the condition.

A questionnaire tool was designed to evaluate the educational value of the programme. Individuals were required to agree or disagree with eight statements before and after each event. Questionnaire completion levels varied and tended to be high before the event but significantly reduced post-event. Subsequently, we are unable to draw scientific conclusions from our evaluation. However, the results provided interesting insights in to current knowledge and revealed misconceptions, highlighting barriers to effective management of diabetes.

**Further Development**

The programme was able to engage with hard-to-reach communities and further collaboration with the NHS Health Check programme will continue to empower these vulnerable patient groups. The innovative approach of delivering sessions at favourable times and locations conducive to learning maximises engagement. Additionally, the educational material can be developed to incorporate NHS Health Checks with the use of mixed media, films and literature in multiple languages. It would be of further benefit to address issues such as healthy lifestyle in childhood, gestational diabetes and improving awareness in younger age groups with access to MOT health checks.
Title: ‘MAP’ Hounslow: excellence in reducing the risk of developing diabetes for patients identified at high risk by their NHS Health Check; A service evaluation

Topic: Diabetes prevention

PRESENTER: Hamid, Farhat

Company/Organisation: London North West Healthcare NHS Trust

Introduction

As diabetes rates in the UK surge, more needs to be done to reduce diabetes prevalence.1 Clinical randomised controlled studies including the United States Diabetes Prevention Programme (DPP) have shown provision of intensive advice around lifestyle, diet and exercise to be effective in reducing weight and improving glycaemic parameters.2 However there has been very little published UK evidence to demonstrate the effectiveness of programmes delivered at a smaller scale in a real-life setting. This service evaluation aims to demonstrate the effectiveness of a local dietetic led diabetes prevention programme in reducing and delaying the onset of type 2 diabetes.

Methods

Between September 2015 and August 2016 individuals (n=251) aged 40-74 years who were identified with non-diabetic hyperglycaemia (pre-diabetes) - HbA1c of ≥ 42-< 47mmol/mol or Oral Glucose Tolerance Test ≥ 7.8-< 11.1mmol/l - through the NHS Health Check Programme were referred onto the Move Away from Prediabetes (MAP) Hounslow programme by their local Primary Care Physician.

A behavioural change approach was fostered throughout the programme. Dietitians focussed on empowering patients by encouraging self-management and providing each patient with tailored goals for weight loss, improving diet, and increasing exercise. Participants had their anthropometry, exercise level and dietary intake measured throughout the programme and these results, alongside biochemistry, were compared pre and post intervention.

Participants received:

- intense pre-assessment
- personalised 1:1 appointments with a dietitian (including goal setting)
- 7 weeks of structured nutrition education and group physical activity sessions
Results

- 78% (n= 196/251) of patients who started the programme completed the 6 month intervention.
- After 6 months of intervention 93% (n = 142/154) of patients re-tested reduced their HbA1c. 83% of patients moved out of pre-diabetes (n = 127/154).
- The average reduction in HbA1c was 5 mmol/mol.
- Physical activity level changes over 6 months: (GPPAQ Score) at start of programme 29% (n=29/170), at 6 months 61% (n=104/170)
- For overweight patients (n=159) the average weight loss after 6 months was 2.9kg (average 3.2%)

Conclusions

The results illustrate the effectiveness of the programme in a real-life setting and demonstrate short-term improvements in both anthropometric and biochemical measures.

Discussion

- Longer term studies are required.
- The results exceed the DPP trial which demonstrated a 58% reduction in diabetes incidence2 compared with 83% reduction in MAP.
- Results from MAP Hounslow could be influential in the development of clinically effective models for the prevention of Type 2 diabetes amongst high-risk individuals anywhere in the world.

References:

Abstract ID\11019

Title: Home OGTT Administered From a GP Clinic - A Convenient, Sensitive and Specific Test for Prediabetes and Type 2 Diabetes

Topic: Diabetes prevention

PRESENTER: Jackson, James

Company/Organisation: SmartSensor telemed Ltd

Co-author 1: Stephen Luzio, Institute of Life Sciences, Swansea University

Co-author 2: Alex Allinson, Ramsey Group Practice

Co-author 3: Catherine Peters, Department of Endocrinology, Great Ormond Street Hospital

Introduction

There is increasing interest in identifying risk factors in an otherwise healthy person and signpost lifestyle modification to prevent the onset of disease. HbA1c is a useful tool for identifying dysglycaemia, however there is considerable controversy over the sensitivity and specificity of HbA1c compared to OGTT, with many studies showing poor performance. Issues surrounding the performance of HbA1c and the practicalities and inconvenience of performing OGTT present dilemmas when addressing diabetes prevention. To address this a novel test kit that allows untrained individuals to perform an OGTT conveniently at home has been developed - the Home OGTT system. Home OGTT is intended to be administered within a GP clinic environment and it could provide a useful tool in assessing glucose metabolism for diabetes prevention and in other clinical scenarios.

Aims

To establish usability and acceptability to patients of a recently optimised Home OGTT system, to evaluate implementation of the system within a GP clinic and to determine its performance for detecting dysglycaemia.

Methodology

Home OGTT (SmartSensor telemed Ltd, Didcot, UK) uses a novel disposable device to perform an OGTT procedure at home and record test data for analysis by a healthcare professional. Home OGTT does not provide a result to the user; data from a snap-off Data Record is captured in a database, checked and then calibrated, with results stored in an electronic record for the healthcare professional to review. The Home OGTT test kit is
electronically tagged to a patient ID during a visit to the clinic and given to the patient to take home.

**Results**

At Ramsey Group Practice (Isle of Man) 54 people were screened using the Diabetes UK Know Your Risk tool, with Home OGTT offered to those with moderate or high risk. 15 people carried out Home OGTT, with one case of diabetes (confirmed by HbA1c) and one case of impaired glucose tolerance identified. There was an extremely high level of satisfaction with the test which was judged to be easy to use, confirming similar findings at Great Ormond St Hospital (2016) and Oxford University (2011, published elsewhere).

In performance evaluations of the optimised Home OGTT system at Swansea University (2015) good correlation to laboratory glucose methods (R$^2$ ~0.96) was observed. Raw Home OGTT method comparison data collected by Oxford University in 2011 has been reprocessed using new calibration developed at Swansea, with >97% sensitivity and specificity observed for dysglycaemia.

**Conclusion**

These studies show Home OGTT is easy to use without training, with high levels of user approval and preference over in-clinic OGTT. The Home OGTT system was found to be easy to administer in a GP clinic setting for diabetes prevention and in other settings.

With considerable improvements in sensitivity and specificity over alternative diabetes tests, coupled with a high degree of accessibility and convenience, Home OGTT could transform the ability to reliably detect and monitor dysglycaemia for prevention of diabetes and its complications.
Abstract ID: 11046

Title: Setting up and integrated wellness service that provides NHS health checks

Topic: Delivering integrated lifestyle services

Abstract ID: 11046

PRESENTER: Sinclair, Nick

Company/Organisation: City of York Council

Co-author 1: Jennifer Saunders, City of York Council

Co-author 2: Fiona Philips, City of York Council

Introduction:

City of York Council is delivering its mandatory health checks as part of an Integrated Wellbeing Service (IWS); this novel approach means that health checks become just one element of lifestyle and behaviour change services available in York.

Aim:

The aim of this model is to offer users alternative community and workplace based venues in which to have a health check; to strengthen the focus on lifestyle and behaviour change factors within a health check; to empower and support people to take more control over their own health; to divert users away from primary care services and towards the integrated wellbeing service unless there is a clearly defined health need. The model has been developed to ensure that the integrated wellbeing service is better placed to motivate and support people to make lifestyle changes to manage their risk factors.

Methodology:

Action research will be utilised which will include evaluation and review of steering group meetings, project plan objectives, action and risk logs held within the project plan, and a case study based review of how the project was established at a site.

The practitioners delivering the health checks utilise a motivational interviewing framework which underpins health check sessions. They also spend a portion of their week increasing community capacity through developing community groups and engaging with existing groups. This means that the practitioners are uniquely informed within the authority to advise people on a range of local services and assets available in York. As well as having strong links with the wellness groups, the practitioner may also attend the first group
session with a health check user, thereby further facilitating the transition from intent to action.

**Results and Conclusions:**

Evaluation of how this approach is being implemented is currently being undertaken and early lessons learned about how the service has been established and what initial outcomes are being achieved can be shared for February 2017. The initial success of the service will be assessed through action research and an evaluation of how effectively the new model is being implemented and embedded.

Conclusions on the success of the initial design, set up and implementation of the integrated wellness service will be assessed from a review of the action research and where possible, quantitative data will be used to; measure the proportion of people who are invited to and have a health check; the proportion of people who have set and taken action on a health goal with the integrated wellbeing service following their health check.

Concluding comments will cover lessons learnt and City of York’s intentions for the service over the subsequent six months.
Abstract ID\11042

Title: Delivering integrated lifestyle services
Topic: Delivering integrated lifestyle services
PRESENTER: Jones, Diane
Company/Organisation: Derby City Council
Co-author 1: Kellie Townes, Derby City Council

Introduction

Livewell is Derby City Council’s healthy living programme, delivering NHS Health Checks, weight management and stop smoking to eligible residents who are registered with a Derby GP practice. We offer our NHS Health Check clients a seamless referral into Livewell for weight management and/or stop smoking following their Health Check.

Livewell provides 12 months of funded support to eligible clients who are ready to make lifestyle changes through healthier food choices, reducing alcohol intake, stopping smoking and increasing activity levels. We have good relationships with the 40-plus Derby GP practices and deliver NHS Health Checks for the practices which have chosen to opt out of delivering Health Checks. We also provide community-based NHS Health Checks for anyone who prefers not to visit their GP or would like a more convenient time or place.

Aim

To work across the city with any suitable agencies, all GP practices and other healthcare providers to ensure the offer of an NHS Health Check is available to as many eligible people as possible and to follow up with integrated lifestyle services in a timely way.

Methodology

We employ three NHS Health Check advisors specifically for the role of promoting and delivering Health Checks in the community. They are trained using the NHS Health Check competence frameworks and work closely with our stop smoking and weight management Livewell advisors to maximise opportunity for supporting lifestyle change.

We promote our NHS Health Check service within local GP practices together with many other community venues, through social media, printed flyers, events, articles in local publications and within our existing Livewell client base. Five of the opted out surgeries send out invites to their eligible patients, who can then book their appointment with Livewell for their NHS Health Check.
We deliver NHS Health Checks across the city including areas of deprivation and in hard to reach communities. Our wide range of accessible venues include libraries, church halls, GP surgery rooms, mosques, pubs, market halls, work places and at events we successfully make links with.

People can find out about Livewell’s NHS Health Checks through the Livewell website and book an appointment online through our easy to use click and book system. The back office CRM allows our team to effectively manage and programme appointments.

**Results**

From the end of January 2015 until now we have completed 1533 NHS Health Checks with a 56% referral rate for blood pressure, cholesterol, CVD risk, HbA1c or BMI.

**Conclusion**

Having the support of Livewell’s healthy living programme is a valuable and integral part of us delivering NHS Health Checks in Derby. The integrated way in which we work with GP practices, partners and Livewell’s stop smoking and weight management advisors ensures that every result from a clients’ Health Check which needs addressing can be done efficiently and effectively. Not only are we providing our clients with an informative Health Check, we can then help with any changes they wish to make to remain healthy for longer.
Abstract ID\11065

Title: A service evaluation of different types of providers of NHS Health Checks in the London Borough of Islington

Topic: Alternative providers

PRESENTER: MacKenna, Brian

Company/Organisation: Medical Directorate NHS England

Co-author 1: Charlotte Ashton, London Borough of Islington

Co-author 2: Esther Dickie, London Borough of Islington

Background

Islington is a densely populated London borough characterised by large inequalities and high rates of morbidity and mortality from cardiovascular disease (CVD). The NHS Health Checks programme is seen as crucial to bring improvements in CVD case finding and prevention. The service has been running since 2009 and NHS Health Checks are available in General Practices, Pharmacies and various community locations through a community provider, such as libraries, religious centres and community events. Due to the high rates of CVD mortality in Islington, a local decision was made to extend the eligibility of NHS Health Checks to include people aged 35-40.

Aim

To analyse difference in uptake and outcomes of NHS Health Checks between General Practice, Pharmacies and community settings.

Methodology

Data from three sources was used in this service evaluation. This included the London Borough of Islington’s Public Health GP Dataset which includes anonymised data extracted from General Practices across Islington including READ codes pertaining to behavioural and clinical risk factors, key conditions, details on the control and management of conditions, key medications, and interventions. Additional outcome data was drawn from Islington Clinical Commissioning Group’s FactEngine (dataset which is updated on a weekly basis covering all patients registered with a GP in Islington since 2010). Performance data (from 2010 onwards) from Pharmacies and the community provider was also analysed.
Results

27, 840 validated NHS Health Checks, representing 32% of the eligible population, were delivered from April 1 2009 to June 25 2015. General Practice delivered the vast majority of checks (n=27,840) with Pharmacies and a community provider delivering 19% (n=5,365) of checks. Overall, one in twenty NHS Health Checks in Islington resulted in a CVD diagnosis, however the rate in General Practice was significantly higher 11% (CI 10.98-11.81%). Six percent (CI 5.31 – 6.58%) of checks in Pharmacies or by the community provider resulted in a diagnosis suggesting that lower risk people were offered a check in these settings. General Practices undertook a similar amount of checks in males (51%) and females (49%), while Pharmacies delivered 62% of their checks to females, and the community provider delivered 58% to females. The highest proportion of checks (35%) were delivered in the 40-49 age group. The community provider delivered 64% of their checks to younger people aged between 35- 50, while General Practice and Pharmacies targeted older people and delivered most checks in the 50-74 age group at rates of 58% and 49% respectively.

Conclusion

Variations in uptake and outcomes is observable between different providers of the NHS Health Checks in Islington. Following the evaluation, Islington Public Health are reviewing the extended age eligibility.
Abstract ID: 11001

Title: Monitoring reach of local NHS health checks programmes-informing choice of local indicators

Topic: Gathering data and producing intelligence

PRESENTER: Lambert, Mark

Company/Organisation: Public Health England

Objectives: Success in reaching target populations is an important factor in determining the impact of any public health programmes. Reducing excess cardiovascular mortality is a key objective of the NHS Health Check (NHSHC) Programme in England. As the NHSHC programme is locally commissioned, local programme monitoring is essential, particularly assessing the relative success in reaching the target population (programme Reach). This study aimed to assess indicators of programme Reach for the cardiovascular prevention component of NHSHC programme that are readily available to local service commissioners.

Study design: Ecological based on GP practice populations

Methods: The programme Reach of NHSHC was assessed in three health districts in the North East of England. Local data returned from GP practices to commissioners on their NHSHC activities was collated for the period October 2010 to March 2013 together with related national published data. Three candidate indicators (numbers of new cases at high risk of cardiovascular disease, new cases of hypertension and growth in chronic disease registers) were chosen based on availability of data to local commissioners. The association between each of these candidate indicators and the number of NHSHCs by GP practices was examined by univariate logistic regression, initially for the year to end September 2011. Analysis was repeated when data became available for the full financial year to end March 2012. Finally, where a strong association was established, the potential contribution of other practice population-related factors were investigated by undertaking further univariate logistic regression with completeness of hypertension registers and level of deprivation.

Results: Data were available from 101 GP practices, together undertaking almost 20,000 health checks a year.

Number of NHSHCs undertaken by practices explained most (77-92%) of the variance the numbers identified at high risk of cardiovascular disease (two for every ten NHSHCs). No association was identified between the number of NHSHCs undertaken and growth in GP practice disease registers for either diabetes or hypertension.
The number of NHSCHs undertaken by a practice predicted the number of new cases of hypertension identified by the practice (with one case identified for every ten checks), albeit the proportion of variation between practices explained was much more variable (2-60%) and less consistent across the three health districts.

For the health district with the strongest association between new cases of hypertension and NHSCHs undertaken, prior completeness of hypertension registers (proportion of estimated register size already identified) explained some of the between practice variation in such cases (16%, p=0.02). Levels of deprivation in the practice population explained very little of this variation (4%, p=0.28).

**Conclusions**: Data routinely available to NHSHC commissioners can support monitoring programme reach, with numbers of new cases of hypertension being the most promising indicator of reach in cardiovascular disease prevention.
Abstract ID\11064

Title: Could the NHS Health Check programme be harnessed to identify people with potential FH?

Topic: Improving quality

PRESENTER: Whitmore, Joanne

Company/Organisation: British Heart Foundation

Co-author 1: Mike Knapton, BHF

Co-author 2: Jenny Hargrave, BHF

Introduction

Familial hypercholesterolaemia (FH) is an autosomal-dominant disorder associated with elevated Low Density Lipoprotein Cholesterol (LDL-C) and early development of atherosclerosis and coronary heart disease (CHD). Untreated, at least 50% of men with FH will develop CHD by age 50, and 30% of women by age 60\(^1,2\).

Historically, estimates show at least 1 in 500 people have FH although recent epidemiological data from Denmark\(^3\) and next generation sequencing data\(^4,5\), suggest the frequency may be closer to 1/250.

The FH story so far

The British Heart Foundation (BHF) has invested £1.5m in FH, funding 27 FH nurses across 12 UK sites over two years. The aim of this investment is to develop, implement and roll out FH cascade testing services in England and Scotland, via referral of index cases identified by routine cholesterol tests; and ensure access to appropriate care and support once diagnosed.

To date, BHF funding has enabled the:

- Development of FH cascade testing services across 12 UK sites.
- Awareness raising of FH in communities.
- New ways of identifying people (index cases) with FH.

BHF also support the development of evidence and tools to support commissioners in commissioning and delivering FH services by:

- Funding of PASS database co-ordinator role.
- Commissioning and publishing of an economic analysis of FH cascade testing.
- Commissioning and sharing of business case tool kit.
- Service implementation evaluation.

The opportunity

The NHS Health Checks is a national programme for adults in England aged 40-74 years of age without a pre-existing condition. The NHS Health Check programme routinely:

- performs total cholesterol: high density lipoprotein ratio (TC:HDL) as part of the CVD risk assessment

and

- ascertains if a family history of premature CVD is apparent

The Simon Broome diagnostic criteria for FH is the main criteria used for the diagnosis of FH and utilises the same information as NHS Health Checks.

Table 1: Simon Broome diagnostic criteria for Familial Hypercholesterolaemia

<table>
<thead>
<tr>
<th>Definite Familial Hypercholesterolaemia in adults:</th>
</tr>
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<tbody>
<tr>
<td>TC &gt;7.5 mmol/L or LDL-C &gt;4.9 mmol/L</td>
</tr>
<tr>
<td>Plus at least one:</td>
</tr>
<tr>
<td>1. Tendon xanthomas in patient or first or second degree relative</td>
</tr>
<tr>
<td>OR</td>
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<tr>
<td>2. DNA-based evidence of an LDL-receptor mutation or familial defective apo B-100</td>
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<table>
<thead>
<tr>
<th>Possible Familial Hypercholesterolaemia in adults:</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC &gt;7.5 mmol/L or LDL-C &gt;4.9 mmol/L</td>
</tr>
<tr>
<td>Plus at least one:</td>
</tr>
<tr>
<td>□ Family history of myocardial infarction at:</td>
</tr>
<tr>
<td>(i) Age 60 years or younger in first degree relative</td>
</tr>
<tr>
<td>(ii) Age 50 years or younger in second-degree relative</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>1. Family history of elevated total cholesterol</td>
</tr>
<tr>
<td>□ &gt;7.5 mmol/L in adult first- or second-degree relative</td>
</tr>
</tbody>
</table>

Conclusion

The economic analysis\(^6\) concludes that cascade testing for FH is highly cost effective. FH cascade testing services across the whole of the UK are feasible and cost effective.
Increasing the number of monogenic diagnoses in index cases would significantly increase cost effectiveness $^8$.

The NHS Health Check programme could enhance identification of people with potential FH (index cases).
**Title:** Finding the Evidence on NHS Health Checks and cardiovascular disease screening

**Topic:** Improving quality

**PRESENTER:** Pearce-Smith, Nicola

**Company/Organisation:** Public Health England

**Co-author 1:** Anne Brice, Public Health England

**Introduction:** The expert scientific and clinical advisory group (ESCAP) provides an expert forum for the NHS Health Check policy, acting in an advisory capacity to support successful roll-out, maintenance, evaluation and continued improvement based on emerging and best evidence.

**Aim:** At the request of ESCAP, the PHE Knowledge and Library Service agreed to conduct an initial, broad literature review in order to identify evidence relevant to the NHS Health Check programme. This remit was later expanded to include identification of evidence on general health checks and diabetes/cardiovascular disease risk screening in the population.

**Methodology:** A literature search incorporating Medline, PubMed, Embase, Health Management Information Consortium (HMIC), Cumulative Index of Nursing and Allied Health Literature (CINAHL), Global Health, PsycInfo, the Cochrane Library, NHS Evidence, TRIP database, Google Scholar, Google, Clinical Trials.gov and ISRCTN registry was conducted in order to identify citations relevant to the NHS Health Check programme, general health checks, diabetes and cardiovascular disease screening and cardiovascular disease prevention. The initial search was performed between January 1996 and October 2014. Subsequent searches were performed at 3 monthly intervals.

**Results:** Citation titles and abstracts were screened in order to determine whether or not they were relevant, and if they met the inclusion criteria. Those citations considered relevant were categorised using the PHE Types of Information (e.g. Systematic Review, Evidence Summaries, Cross-sectional Studies, Cohort Studies etc), and were listed in a report with a summary of the main aim, methods and results for each citation, as well as a link to the abstract or full text. Every 3 months a search update is performed and a new report created. Reports are presented to the ESCAP group and made available on the NHS Health Checks website.

**Conclusion:** In order for the ESCAP group to continually improve the quality of the roll-out and management of the NHS Health Checks programme, it is necessary to have access to the best available evidence in this area. By conducting a systematic search of databases...
and internet sources, PHE Knowledge and Library Service are able to collate the evidence base for NHS Health Checks, classify the evidence by publication type and update the evidence at 3 monthly intervals, using systematic and transparent methods.
Abstract ID\11047

Title: Local authority commissioning of the NHS Health Checks programme: a mixed methods evaluation

Topic: Cross-boundary commissioning/working

Abstract ID: 11047

Company/Organisation: Durham University

Co-author 1: Lllinos Jehu, Durham University
Co-author 2: Anne Mason, University of York
Co-author 3: Dan Liu, University of York
Co-author 4: Linda Marks, Durham University

Introduction: In April 2013, local authorities in England were given new duties to improve the health of their populations, accompanied by the transfer from the NHS of a ring-fenced budget for a range of public health services (including Health Checks). While the reforms reaffirmed the role of local authorities in shaping the social determinants of health, the effectiveness of the new arrangements remains untested. Our ongoing research evaluates the impact of the reforms on budget deployment, service innovation and public health-led changes across local authority directorates.

Aim: The aim of this study was to assess the extent to which the 2013 reforms have encouraged changes in the commissioning of Health Checks that may ultimately result in improvements in cardiovascular health and reductions in health inequalities.

Methodology: This was a mixed methods study. Multilevel regression analysis was used to investigate whether spend per head of eligible populations influenced invitation rates, coverage rates or uptake rates nationally. The models controlled for a wide range of factors. In-depth case study research in 10 heterogeneous local authorities enabled exploration of approaches to commissioning Health Checks and follow-on services. In total, 90 interviews were conducted with key stakeholders including directors of public health, local authority chief executives, elected members, clinical commissioning group leads, and third sector representatives. Interviews were recorded, transcribed and analysed using a combination of thematic and framework analysis.

Results: Emerging findings suggest that local authorities with higher per capita spend on NHS Health Checks invited a larger proportion of their eligible populations. They also achieved better coverage rates, with a higher proportion of eligible individuals receiving a Health Check. However, the uptake rate – the proportion of invited people who attended a Health Check – was not significantly linked with spend per capita on the programme.
Themes arising from the qualitative analysis included: low awareness of the programme amongst some stakeholders; weighing up mandatory and non-mandatory services; changes in Health Check provision over time; and increasing emphasis on value for money. Health Checks were provided through primary care in all case study sites, although outreach activities were also described in all but two sites. Follow-on services included public health-funded lifestyle hubs, which could include a wide range of services, a choice of providers and referral to other local authority services. Perceived challenges to making Health Check-related commissioning decisions included: i) a lack of performance data and feedback from providers; ii) balancing mandatory provision with the more urgent needs of some groups; and iii) evaluating engagement strategies to assess whether these were reaching target populations successfully. The challenges were felt to be particularly pressing due to current financial pressures.

**Conclusion:** Local authorities that spent more per head on Health Checks had higher invitation rates, but this did not translate into better uptake rates. There is evidence of changes in commissioning practice as a result of the public health reforms, with efforts being made to broaden the NHS Health Check programme at local level and engage target groups more effectively.
The GM Health and Social Care Partnership Strategic Plan commits the system to taking work forward to develop a systematic and scaled approach to identifying the missing individuals with, or at risk of developing long term conditions. The NHS Health Check is a central element of the ‘find and treat approach’ required to find the missing 1000’s across GM and achieve radical improvements to population health.

The 10 Local Authorities that make up Greater Manchester serve a population of over 2 and a half million people, approximately 4.5% of the England population. The review of NHS Health Checks on this scale gives an opportunity to inform the way forward for Health Checks at a national level.

Review

Each of the 10 NHS Health Checks programmes across GM completed the StARS framework in advance of a facilitated group session in November 2016. This information was reviewed and informed the development of a session that used the MOSCOW model of review to draw out the must do’s, could do’s, should do’s and won’t do’s of a co-ordinated GM NHS Health Check.

The contents of the StARS, and the finding from the facilitated conversations informed a report to the Directors of Public Health (DsPH).

The review found that the most successful programmes had the following in common:

   a. GP engagement, linked by the CCG to some form of Quality Premium.
   b. Choices of places for delivery
   c. Health promotion capacity and behaviour change support delivered to individuals
d. Training programmes for health promotion teams
e. Planned and structured approach, invitations issued and a minimal reliance on opportunistic health checks

Recommendations

The recommendations that were presented to DsPH focussed on the development of a robust GM Pathway that forms a systematic and scaled approach to identifying the missing individuals with, or at risk of developing long term conditions required by the GM Health and Social Care Partnership Strategic Plan. This pathway will incorporate the stratification of risk prior to the invitation of 20% of the population on a rolling 5 year programme for the NHS Health Check. Those with an elevated QRISK equal to or greater than 20% will be offered an enhanced health check, the content of which will be informed by the Strategic Clinical Network (SCN) review.

Next Steps

The DsPH for the 10 GM boroughs are supportive of this direction of travel. The next step is to work alongside the SCN to quantify the benefits of any additions to the NHS Health Check, and the impact of risk stratification and a more tailored NHS Health Check, alongside a review of the capacity to respond to the findings of a NHS Health Check across the system.
Introduction

Coronary artery disease (CAD) is a common cause of premature death and disability. Several demographic and lifestyle factors contribute to CAD risk. A number of prediction tools based on these factors (e.g. QRisk2) have been developed to classify individuals into low, medium and high 10-year CAD risk. These risk scores have been used to identify and target primary prevention measures to those at the highest risk.

Although a family history of CAD is a useful predictor, it is neither a sufficient nor accurate surrogate for an individual's genetic risk. Recent discoveries now provide a framework for testing whether adding genetic information in the form of a genetic risk score can improve current risk prediction.

The NHS Health Check programme provides a unique opportunity to test in a time and cost-effective way whether the addition of genetic information will improve CAD risk prediction.

Aims

The GENVASC study aims to recruit large numbers of well-phenotyped participants without a history of CAD to discover novel genetic markers for risk stratification.

The recruitment method needed to have minimal impact on clinical service delivery, integrate into standard workflows and maximise the positive influence of using the participants’ primary care team for consent and sample collection.

Data acquisition needed to be coordinated centrally, with little to no impact on either participants or primary care teams.
Methods

Participants are recruited via GP practices, incorporating the recruitment process of GENVASC into the standard process for the NHS Health Check, including integration to local electronic patient record systems and the clinical test request system for participant and sample tracking.

Data from the primary care records are acquired, with the appropriate approvals, from the local CSU central data warehouse. Data from the secondary care records are acquired directly from University Hospitals of Leicester NHS Trust (UHL) databases. Samples are transported from recruiting sites to the research laboratory using existing clinical pathology services.

Data are held securely on dedicated NHS servers within UHL. Samples are processed and stored securely with the David Wilson Biobank, University of Leicester.

Results

Using this novel recruitment method, over 20,000 participants have been recruited into GENVASC in four years.

We collect 2319 data fields resulting in 2,111,349 data points from primary care and 317 data fields resulting in 2,819,657 data points from secondary care records. All data is validated, coded and searchable, irrespective of source.

The David Wilson Biobank currently holds in excess of 250,000 GENVASC samples.

Conclusion

The GENVASC study has successfully demonstrated a novel model to recruit large numbers of participants into a research project through the delivery of the NHS health check programme.

This could only be achieved though collaboration between the University of Leicester, University Hospitals of Leicester NHS Trust, NIHR Leicester Cardiovascular BRU, CCGs, Public Health and GP practices.
Title: The effect of CPD certified NHS Health Check training on the knowledge base of service providers

Topic: Training, workforce development and the competence framework

PRESENTER: Mellor, Matthew

Company/Organisation: Health Diagnostics Ltd

Co-author 1: Geoff Curtis, Health Diagnostics Ltd

Co-author 2: Julie Evason, Health Diagnostics Ltd

Introduction:

Since the publication of the NHS Health Check Competence Framework in 2014, an increasing emphasis has been placed on the requirement for service providers to undergo quality-assured training that ensures key competencies are understood and adhered to. Whilst progress has been made in this respect, there remains an ongoing need to supply evidence for the specific improvements in providers’ knowledge levels and ability to deliver NHS Health Checks effectively.

Aim:

To assess and quantify the effect of a CPD certified NHS Health Check training course on the knowledge base of providers delivering the national programme. Both new providers and those with existing experience should be examined with a view to determining the training’s effect on different groups.

Methods:

- Establish a one-day training course that comprehensively addresses all of the requisite competencies listed in Public Health England’s NHS Health Check Competence Framework
- Build on active learning theory and incorporate lessons from the Learning Retention Pyramid (based on Bloom’s taxonomy), to develop a course that is fundamentally participatory in design and delivery
- Create a knowledge check assessment that examines the extent to which training participants are cognisant of key competencies associated with the delivery and administration of NHS Health Checks
- Validate the quality and integrity of the NHS Health Check training course and knowledge check by achieving Continuing Professional Development (CPD)
certification status from an accredited certifying organisation (The UK CPD Certification Service)

- Conduct the training course with a range of health professionals engaged to deliver NHS Health Checks. This should include:
  
  1. New providers with no prior experience of delivering health checks and being trained for the first time
  2. Existing providers with experience of delivering health checks and going through a refresher training

- Assess participants' level of knowledge by administering knowledge check assessments both before and after the training course has been completed

Results:

- Pre and post training knowledge check scores for new providers with no prior experience of delivering health checks (7 delegates to date since research implemented):
  
  1. Average pre-training knowledge score: 50.7%
  2. Average post-training knowledge score: 76.3%
  3. Average improvement in knowledge score: 25.6%

- Pre and post knowledge check scores for existing providers with experience of delivering health checks (27 delegates to date since research implemented):
  
  1. Average pre-training knowledge score: 74.6%
  2. Average post-training knowledge score: 85.0%
  3. Average improvement in knowledge score: 10.4%

Conclusions:

- Participation in a one-day CPD certified training course that addresses key NHS Health Check competencies results in, on average, an immediate 25.6% improvement in the knowledge levels of new providers based on validated assessment scores
- For experienced individuals participating in refresher training, an average 10.4% improvement in knowledge levels is observed
- Both initial and refresher CPD certified training courses for NHS Health Check providers (as well as the use of online professional development resources) are recommended as methods with which to improve knowledge levels and reinforce key competencies
Abstract ID: 10995

Title: The perceptions of healthcare professionals on the effectiveness of the NHS Health Checks Programme

Topic: Training, workforce development and the competence framework

Abstract ID: 10995

PRESENTER: Clintworth, Edward

Company/Organisation: West Berkshire Council

Background: Cardiovascular disease is the leading cause of premature mortality rates in England. Whilst services and interventions address these, the broader population health in England is considered sub-optimal. In 2008, the NHS Health Checks programme was introduced. The need for further research on its impact and effectiveness at local a level will facilitate systematic work for its development in the future. This study reviews the perceptions of healthcare professionals on the effectiveness of the NHS Health Checks programme.

Aims and objectives: This study aims to explore the perceptions of ten healthcare professionals on the effectiveness of the NHS Health Checks programme working to reduce prevent or delay the onset of cardiovascular disease whereby decreasing avoidable premature mortality rates among people aged 40-74 in England. The objectives of this study aim to:

- To identify elements of the NHS Health Checks programme which may be considered an influence on the prevention of avoidable premature mortality rates.
- Explore what could be considered the strengths and limitations whilst delivering the NHS Health Checks Programme.

Methodology: This primary research study utilised a qualitative research design and methodology which allowed for the provision of relevant information and results gathered through open face-to-face semi-structured interviews. Primary data was collected from healthcare professionals of those delivering NHS Health Checks and analysed thematically with a framework approach.

Results: Healthcare professionals expressed a value of the programme and its objective to reduce premature mortality rates. Some Healthcare Professionals reported challenges toward health improvement of patients through attitudes expressed toward behaviour change but depict a strong influence toward changing the perceptions of patients receiving
mixed messages in the media. Evidence suggests a lack of training opportunities, knowledge and understanding of the evidence-base underpinning the philosophy and implementation of the NHS Health Checks programme. There was some confusion and frustration of quarterly targets which are enforced on providers, resulting in an increase in uptake of low risk patients. Finally, there was a strong emphasis from Healthcare Professionals to introduce HbA1c tests into the programme.

**Conclusion:** More work is needed to raise awareness of the effectiveness of the NHS Health Checks programme toward reducing premature mortality rates at a local level. Improve access and availability for potential high-risk patients in having an NHS Health Check. Healthcare Professionals delivering NHS Health Checks require sufficient training and regular updates to equip them with appropriate skills, knowledge and competencies to deliver the service sufficiently.

**Key words:** NHS Health Checks; healthcare professionals, cardiovascular disease; lifestyle interventions; behaviour change; qualitative; primary care; perceptions; experiences; risk management.