

OCTOBER 2014

ROSE VOUCHERS FOR FRUIT AND VEG

An evaluation report



**food
matters**

sustainable, fair food systems

Rose Vouchers for Fruit and Veg- An evaluation report

October 2014



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Evaluation: Rose Voucher Scheme

1. Introduction	3
2. Introduction to the Rose Voucher Project	6
2.1. Evaluation of the Rose Voucher Project	6
3. Methodology	7
3.1. Young mothers	7
3.2. Children 1 – 4 years	8
3.3. Children centre staff / project staff	9
3.4. Traders	10
4. Findings:	12
5. Feedback from Children's Centre and Project Staff	23
6. Conclusion	27

The families involved in the project as with most families know what they should be buying and feeding their families but they don't, they don't because they don't have enough money, different cultural practices- means shopping for food in a different culture makes it harder to make healthier choices, and lack of affordable shops selling healthy foods.

The RV project has helped to address those issues. It has changed the way the participating parents buy, shop, and cook

Rose Voucher Co-ordinator, Brookhill, Woolwich



Rose Voucher Scheme in Action

1. Introduction

Food poverty is the inability to obtain healthy affordable food¹. The Return on Investment for additional food provision is £3.25 for each food £1 invested². This is explained in greater detail in this evaluation.

In summary there are many reasons why people experience food poverty but in every case the root cause is money. Without access to food outlets offering a wide variety of affordable, healthy and suitable food poor and minority communities may not have equal access to the variety of healthy food choices available to non-minority and wealthy communities.³ Access is not just about the availability of food but also includes other issues; access is but one aspect of what is called food poverty or food security. There are six words that act as metonyms for the various processes involved in individuals or families obtaining their food and these are:

- Access
- Availability
- Affordability
- Awareness
- Acceptability
- Appropriateness

Many definitions of food poverty or food insecurity have cultural or social elements to them (acceptability and appropriateness), it is not just that the correct amount of food should be available but also that the food on offer should be culturally appropriate and acceptable, as well as affordable. Many of those living in food poverty report this aspect of food insecurity themselves with many reporting that not being able to afford a 'hot' meal or a specific food item is for them an indicator of both absolute and cultural poverty. Food poverty data for those on low incomes in London showed that food insecurity may be a common feature of households that have incomes at the level of the UK national minimum wage or lower, with 20% being food insecure and 6% food insecure with hunger⁴. A Food Standards Agency report in 2007 showed that just under two-fifths on low incomes (39%) reported worrying about running out of money for food and 36% indicated that they could not afford to eat balanced diets. So even if availability is okay you can be deprived of access due to a lack of financial resources or lack the cultural capital to shop in say a farmers market, access can be mediated by a physical impairment or say, having three children to take shopping.

Due to this complex mix of factors, people who have a low income compared to the national average have the lowest intakes of fruit and vegetables; there is a direct correlation with lower intake of fruit and vegetables and poor diet. In turn poor diet is correlated with diseases that are expensive to treat such as cancer, diabetes, obesity and coronary heart disease. Food poverty can also be about an overabundance

¹ http://www.sustainweb.org/foodaccess/what_is_food_poverty/

² Oliveira, V and Frazao, E (2009) The WIC Program: Background, trends and economic issues. USDA, Economic Research Service. Economic Research Report Number 73.

³ Morland, K Wing, S, Diez Roux, A Poole, C Neighborhood Characteristics Associated with the Location of Food Stores and Food Service Places. *Am J Prev Med* 2002;22(1):23–29.

⁴ Greater London Council (2013) A Zero Hunger City. <http://www.london.gov.uk/sites/default/files/A%20Zero%20Hunger%20City.doc.pdf>. Accessed 31st May 2014

of “junk” food as well as a lack of healthy food. This is accompanied by overweight or obesity so that the individual does not look malnourished despite clear evidence that they are malnourished.

An investment of £65,000 has been made by the Alexander Rose Charities with the aim of improving the health and health related behaviours of individuals who live in poverty and particularly those who live in *food poverty*. This evaluation examines the return on that investment.

Traditionally and in financial terms return on investment is defined as the monetary rate of return on an investment with the investment offering the greatest return on investment being prioritised. The Rose Voucher Scheme cannot be measured in purely financial terms and there is no equivalent comparator. Return on investment in a charitable context measures the cost-effective approaches where financial benefits outweigh the initial investment, hence giving a return on investment⁵.

The **evaluative question** we are answering is:

Can the Rose Vouchers for Fruit and Veg local intervention project add value to the diet and health related behaviours of young families?

Eating an unhealthy diet leads to a poor start in life, even before birth poor diet leads to poor health outcomes in later life⁶.

There is a worrying and increasing gap between health circumstances and outcomes between rich and poor people in the UK. In both Greenwich, of which Woolwich is a ward, and Hackney there are significant gaps in life expectancy in individuals, both male and female, between the wards that are wealthy and those that are less wealthy. Mean life expectancy in Hackney is 77.7 years for males and 82.8 years for females. The gap in life expectancy is 4.4 years for men and 3.4 years for women. Mean life expectancy in Greenwich is 78.5 years for men and 82.2 years for women. The gap in life expectancy is 5.4 years for men and 5.6 years for women.

The gap in life expectancy is illustrated as the slope index of inequalities and can be demonstrated in many London boroughs. There is a multi-factorial causation of the gap in life expectancy between the wealthy and economically deprived boroughs this is well evidenced in the Marmot review ⁷. With causation linked to both lifestyle and wider determinants of health including housing, education, planning etc. More important the evidence of the Marmot review strongly supports “Give Every Child the Best Start in Life” principle.

In Hackney’s primary schools in 2013, 33.6% of pupils were eligible for and claiming free school meals. This is a reduction of around 3% from 2011. Hackney’s rate for 2013 is almost double the national average, and is higher than both the London and inner London averages. Hackney has the sixth highest rate in London. In Greenwich’s primary schools in 2013, 28% of pupils were eligible for and claiming free school meals. This is a reduction of around 3% from 2011. Greenwich’s rate for 2013 is higher than the national average.

⁵ WHO and Faculty of Public Health (2014) The Case for Investing in Public Health. Stockholm. WHO.

⁶ Barker, D.J.P. (1992) The Fetal and Infant Origins of Adult Disease. BMJ Books: London

⁷ Marmot, M (2010) Fair Society, Healthy Lives <http://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review> Accessed 10th May 2014.

Infant mortality in Hackney at 4.9 per 1000 live births in 2009 -11 is slightly higher than the London and England averages. Infant mortality in the same period in Greenwich was 4.3. Both the London and England average are 4.4 per 1000 live births.

What works to reduce infant mortality? Department of Health guidance⁸ identified a number of evidence-based interventions that work together to reduce infant mortality. One recommendation for **disadvantaged groups is optimising nutrition for mother and infant**. Women in disadvantaged groups are more likely to be obese before they conceive, and obesity can be an indicator of malnutrition, particularly of vitamins and minerals. Interventions include:

- Promoting breastfeeding and supporting women to continue to breastfeed by implementing an externally evaluated programme
- Promoting the Healthy Start programme, increasing access to healthy food and vitamin supplements
- Developing a 5 A DAY communications programme aimed at increasing awareness of the health benefits of fruit and vegetables

Interventions that are likely to reduce inequalities in infant mortality include:

- Delivering targeted outreach work aimed at vulnerable and socially excluded women and providing maternity services at convenient times and locations, including integration of maternity services within children's services.

Despite being an area of high deprivation, breastfeeding rates are very high in Hackney and the City. In 2010/11, 92% of mothers initiated breastfeeding and 80% were still breastfeeding after 6-8 weeks.

In the first half of 2011/12 this rate had risen further to 84%. Over half of those still being breastfed at 6-8 weeks were being exclusively breastfed (50% of all babies in 2010/11).

Over the past two and a half years, the proportion of women in Hackney and the City initiating breast-feeding has remained stable and the proportion of women sustaining breast-feeding at 6-8 weeks has risen.

Woolwich has a similar profile although prevalence of breastfeeding in Royal Greenwich is above national; rates are generally lower among White British mothers and teenage mothers. Rates are also lower in the south of the borough.⁹

⁸ H/DCSF: Implementation plan for reducing health inequalities in infant mortality: a good practice guide. DH: 2007.http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_8 Accessed 25th August 2014

⁹ Greenwich Health and Wellbeing Board (2013) Profile of Children and Young People in Royal Greenwich file:///Users/susanlloyd/Downloads/Profile_of_children_and_young_people_in_Royal_Greenwich_updated_November_2013.pdf Accessed 25th August 2014

2. Introduction to the Rose Vouchers for Fruit and Veg Project

The Rose Vouchers for Fruit and Veg project is an innovative approach for the UK. The project board have set up their charitable contribution to the women, infants and children so that the investment adds value to the Healthy Start scheme that is already in place for UK families.

The Rose Vouchers for Fruit and Veg local intervention project aims to add value to the diet and health related behaviour of young families who are entitled to use the Healthy Start scheme by providing additional Rose Vouchers matching their Healthy Start entitlement. The Rose Voucher can be used in local retail outlets that sell only fresh fruit and vegetables. Parents can exchange their Rose Vouchers for fruit and vegetables without direct payment to the shop or market stall owner.

2.1. Evaluation of the Rose Voucher Project

Can the Rose Vouchers for Fruit and Veg local intervention project add value to the diet and health related behaviours of young families?

The outcomes of the scheme are primarily based on the behaviour of young families but are also dependent on the participation of children's centre staff and local traders. For this reason the target groups from which we gathered evaluation data included – **young mothers and their families, children centre staff and local retailers who are linked to the scheme.**

In undertaking this evaluation we investigated the impact of the pilot on the mothers and children, and also on those delivering the vouchers, the children centre staff and traders. For this reason we've split the outcomes into four sets of outcomes for each of these groups. The outcomes that were measured are listed in Tables 1, 2, 3 and 4, a total of 21 outcomes.

The source of our evaluation data, families with young children, children centre staff or traders governed the location where the data was collected. Data from the children's centre staff and retailers was analysed.

This evaluation was designed to measure changes in both diet and health related behaviour and the outcomes are linked to the content of the programme. In a community base intervention such as this it's not possible to design a randomised control study or to apply a prospective design. The evaluation was also limited by the amount of money available. For this reason we developed the study to make measurements before and after the introduction of the Rose Vouchers, and therefore to measure change. In Tables 1, 2, 3 and 4 we've specified which measures we took before and which measures after. The measurements were taken over one year with the intervention lasting 6 months for this reason we measured short-term outcomes only.

3. Methodology

We used the following methodology to deliver the evaluation. The method used was dependent on the target group and we subdivided the methodology by the target group for ease of reference.

3.1. Young mothers

Mothers with young children are particularly vulnerable and we wanted to evaluate the impact of the Rose Vouchers for Fruit and Veg project on both diet intake and food related behaviour. We measured intakes of fruit and vegetables, we also measured the overall quality of the participant's diet before and after receiving the Rose Vouchers. This enabled us to evaluate the impact of the voucher on both dietary intake and purchasing. We also looked at any displacement activity i.e. fruit and vegetables being purchased instead of sweets, crisps and fizzy drinks.

Additionally it was important to determine whether the food available through the Rose Vouchers was both acceptable and accessible, in order to evaluate this we ran focus groups in each of the two boroughs. We enhanced the data we collected through the use of case studies and photographs.

Table 1: Mother - methodology

Number of participants = approximately 40 per borough. 81 participants in total.

Target group	Outcome	Outcome measurement tool	When Pre / post	
	Diet intake			
Mother	1. Food intake: fruit and vegetables	24 hour diet history	Pre & post	24 diet history sheet
Mother	2. Quality of diet inc. Fruit and vegetables	24 hour diet history	Pre & post	24 diet history sheet
	Food related behaviour			
Mothers	5. Use of food purchased – ease of use	Focus group		Focus group questions
Mothers	6. Ease of use of vouchers	Focus group	Post	Focus group
Mothers	7. Access to range of outlets where vouchers can be used	Focus group	Post	Focus group and data collection form

Mothers	8. Ease of use of vouchers (embarrassment)	Focus group	Post	
Mothers	9. Acceptability of food purchased	Focus group,	Post	
Mothers	10. Types of food purchased with voucher	Focus group, case studies.	Post	Case study
Mothers	11. Income displacement proportion of spend on fruit and vegetables compared to sweets/ crisps/ fizzy drinks	24 hour diet history, focus group	Pre & post	

Preparing meals from scratch, the numbers of ready meals eaten and the numbers of take-away meals eaten can be an indicator of positive changes in food habits. We compared the change in all these eating behaviours.

3.2. Children 1 – 4 years

Young children are a vulnerable group; we evaluated the impact of the Rose Vouchers for Fruit and Veg on dietary intake in this group. In families with children aged 1-4 we measured intakes of fruit and vegetables and also measured the overall quality of the child's diet before and after receiving the Rose Vouchers. This enabled us to evaluate the impact of the voucher on dietary intake.

Table 2 Children aged 1 -4 - methodology

Number of families = approximately 40 per borough. 81 participants in total.

Target group	Proposed outcome	Proposed outcome measurement tool	When Pre / post	
	Diet intake			
Children 1 - 4	12. Food intake: fruit and vegetables	Child 24 hour indicator food intake questionnaire (administered to mother);	Pre & post	Child FFQ
Children 1 - 4	13. Quality of diet inc. Fruit and vegetables	Child 24 hour indicator food intake questionnaire(administered to mother);	Pre & post	Child FFQ

3.3. Children centre staff / project staff

The success of the Rose Vouchers for Fruit and Veg scheme depends on the systems and structures in place to support the distribution and administration of the scheme. Much of this work sits in the children's centres. This activity sits alongside family support systems providing advice and resources that encourage good dietary habits and behaviour. We collected data of voucher distribution and redemption and additionally to analyse interviews with child centre staff to assess the level of support available to young families and the resources required, in the long term, to sustain the Rose Vouchers for Fruit and Veg scheme.

Table 3: Methodology – Children's Centre Staff

Numbers of participants = >2 per borough

Target group	Proposed outcome	Proposed outcome measurement tool	When Pre / post	
Children centre staff / other	14.. Numbers of vouchers distributed	Crude data; then used to calculate monetary value	Post	Crude data collection
Children centre staff/ other	15. Numbers of vouchers received from traders	Crude data; then used to calculate monetary value Gap between those not traded in?	Post	Crude data collection
Children centre staff	16.Access to individuals entitled to take up Health Start and Rose vouchers (identification, registration, counselling and referral)	Focus group / interview	Post	Interview children centre staff

3.4. Traders

Traders are pivotal to the outcomes of the Rose Vouchers for Fruit and Veg Scheme. The scheme depends on vouchers being accepted in exchange for the purchase of fruit and vegetables. The schemes being used to deliver fruit and vegetables to participants vary between locations but there are commonalities that we evaluated, including numbers of vouchers received and redeemed, and the usability and sustainability of the scheme in the long term.

Table 4; Methodology – Traders

Number of participants = number of traders involved in project

Target group	Proposed outcome	Proposed outcome measurement tool	When Pre / post
Trader	17. Numbers of vouchers received	Crude data; then used to calculate monetary value	Post
Trader	18. Numbers of vouchers redeemed	Crude data; then used to calculate monetary value	Post
Trader	19.Types of food purchased with vouchers	Semi-structured interview, face-to-face	Post
Trader	20. Mechanism for redeeming vouchers	Semi-structured interview, face-to-face	Post
Manager / Trader	21. Sustainability of scheme e.g. level of staff input inc. Volunteers.	Semi-structured interview, face-to-face	Post

The tools that were used to collect data were chosen to most effectively collect data from the demographic of participants. We had originally planned to use food frequency questionnaires however the chaotic lives of some participants meant that the only time that we could collect data was when we were face-to-face. For this reason we used a simple self-reported 24hour recall for parents, parents also reported 24hour recall for their children (only those children that they were receiving Rose Vouchers). This data was triangulated with qualitative data collected via focus groups.

All the data was self-reported the magnitude of changes between the 2 points in time points was compared using a paired t-test. Although intakes of particular foods such as fruit and vegetables are not normally distributed, other similar work has found that actual changes in consumption are¹⁰ and so were analysed using parametric statistical methods. We recognised that sample size was small and that we were at risk of data dredging. We therefore present the results in the full knowledge that the numbers do not enable us to provide robust statistical significance. So the data is internally reliable and internally/externally valid but not externally reliable in that what has been found is valid for the cases under consideration but needs to be treated with care in applying to other cases. For this reason the results are indicative of the changes as a result of the intervention rather than absolute proof of concept.

Qualitative data

Qualitative data was collected through participatory workshops. Participatory workshops were held at each of the pilot project locations at the beginning of the pilot project prior to receiving any vouchers, mid-way through the project and at the end when vouchers were no longer being received. The purpose of the workshops was to monitor the impact of the project on the participants by identifying any changes in their shopping and eating behaviour and their attitude to the project and its impact on the food they consumed.

The workshops used an approach based on Participatory Appraisal focused on establishing a relaxed and non-threatening atmosphere and allowing project participants to openly discuss their feelings about the project and its impact without fear of judgement and in a mutually supportive environment. To achieve this the workshops used active processes and visual tools drawn on flip charts to encourage engagement, facilitate participation and document comments according to each participant's capacity.

Qualitative Tools

The 3 workshops at each location followed a similar style and included the same tools to allow for direct comparison during analysis of the workshop outcomes. The tools used included:

- **Thought Bubble charts** – introducing the theme of the workshop and understanding attitudes to the project
- **Budget Pie charts** – gaining an understanding of personal budgets and competing financial demands with a focus on monitoring changes in food spend and on fruit and vegetables within the total food budget.

¹⁰ Barton KL., Anderson AS., Wrieden, WL., Baxter, R .2005. Validity and reliability of a short questionnaire for assessing impact of cooking skills interventions. *Proceedings of the Nutrition Society* 64: 101A.

- **Personal and family food diaries and meal diaries** – to build a picture and monitor changes in personal and family eating habits
- **Bubble charts** – to understand the changes participants have recognised in the way they shop, the meals they and their families eat and their attitude towards their Children’s Centre.

The data was analysed for emerging themes.

4. Findings

We have analysed quantitative and qualitative data collected from four sites to assess the impact of the Rose Voucher scheme. The four sites are Woolwich Brookhill, Woolwich Mulgrave, Hackney Daubeney and Hackney Sebright / Comet.

The following section provides an evaluation of changes in food intake and changes in behaviour in the families that took part in the Rose Voucher Scheme:

1. 24hour diet intake to measure vegetables – children and adults and 24hour diet intake to measure fruit – children and adults
2. 24hour diet intake of diet quality indicator food – crisps
3. Weekly intake of meals prepared at home and intake take-away meals
4. Breast milk and formula milk review
5. Feedback from Children’s Centre and project staff
6. Feedback from market traders

FINDING: The Rose Voucher scheme has increased vegetable and fruit intake in both children and adults

We have found this because the changes in vegetable and fruit intake, Table 1, show a trend of increases in both vegetable and fruit intake during the Rose Voucher programme.

This trend is seen both in children and adults, the exception is a decrease in vegetable intake in Woolwich Mulgrave adults.

This positive trend of eating more vegetables and more fruit is most pronounced in Woolwich Mulgrave children vegetable intake and Hackney Sebright adults fruit intake.

Analysis of the indicative change in eating vegetables and fruit shows that for the increase in children eating vegetables in Mulgrave and the increase in adults eating fruit in Hackney are likely to be as a result of the Rose Voucher scheme.

	Woolwich Brookhill			Woolwich Mulgrave			Hackney Daubeney			Hackney Sebright		
	Pre int	Post int	P value	Pre int	Post int	P value	Pre int	Post int	P value	Pre int	Post int	P value
Vegetables All	2.93	3.38		2.25	2.48		1.53	2.11		1.53	2.79	
Vegetables Children	3.24	3.33	0.84	2.00	2.75	0.02*	1.27	1.78	0.28	1.47	2.43	0.24
Vegetables Adults	2.57	3.19	0.29	2.50	2.29	0.50	1.76	2.44	0.70	1.59	3.14	0.14
Fruit All	3.02	3.34		2.55	2.90		2.16	2.56		1.71	3.14	
Fruit Children	3.42	3.50	0.90	3.10	3.38	0.25	2.07	2.44	0.85	1.88	2.60	0.30
Fruit Adults	2.95	3.24	0.37	1.82	2.69	0.20	2.24	2.67	0.43	1.58	3.40	0.03*

Table 1: Change in intake of fruit and vegetables post intervention– adults and children

24hour diet intake vegetables and fruit – children and adults

FINDING: The Rose Voucher scheme has improved food related behaviours linked to increased vegetable and fruit intake in both children and adults.

We conclude this because the quantitative data is triangulated by the qualitative data from parents and Children's Centre staff; this is presented in the following section.

Vouchers: Ease of use and acceptability



Participant using her RV at the GCDA stall at Brookhill Children's centre

Access to fruit and vegetables that could be purchased with the vouchers varied between locations. With project participants in Hackney having access to local market stalls at Ridley Road market (also known as Dalston market), East London Food Access fruit and vegetable community stalls, and Growing Communities farmers' market and vegetable box scheme. Project participants in Woolwich could use one of two volunteer run Greenwich Cooperative Development Agency (GCDA) fruit and vegetable co-operative stalls run at the participating Children's Centres.

Ridley Road / Dalston market (Hackney)

Hackney users reported the market is very easy and accessible to buy fruit and veg. regularly & there is much greater variety.

*I'm going to the market more often than before, much better value than the supermarket.
The market is much cheaper and the fruit and veg. cheaper, of a better variety and more culturally suitable.*

GDCA fruit and vegetable stall users (Woolwich)

Woolwich users reported

"As a volunteer the services that we provide for even those that don't use RV (Rose Vouchers) has been very successful. It helps the community neighbourhood with fresh vegetables for everyone at good rates and encourages healthy eating."

*The stalls have a good variety of fruit and veg; you never know what new things might be there.
The stall is cheaper so I am happy to use vouchers and top-up with cash.*

Fruit and veg is much better quality at the stall e.g. plums are much softer and juicier, not so sour.

The stuff you get from the stall lasts longer, is fresher and has a better flavour than stuff from the shops.

Range of food available and purchased

Ridley Road / Dalston market (Hackney)

Hackney users had access to the full range of fruit and vegetables available from participating market traders.

GDCA fruit and vegetable stall users (Woolwich)

There's a good choice on the stall. Very good value, cheaper than the supermarket.

Access to range of outlets

Most participants recognised the better value for money for fruit and vegetables offered by the stalls in Children's Centres, the market in Ridley Rd. and the East London Food Access fruit and veg community stalls compared to supermarkets.

Ridley Road / Dalston market (Hackney)

The variety of produce, particularly for African and Afro-Caribbean cooking was also seen as a key benefit of markets and stalls.

"I am more inclined to buy fruits with the vouchers because I cannot use them on anything else."

"You get good value for money at the stall."

"I'd like to say I think the scheme has been great. I have been able to buy double the fresh fruit and veg. I could normally get and enjoy the variety of choice."

Woolwich Children's Centre staff highlighted the importance of the fruit and vegetable stall held every Thursday afternoon at the Children's Centre. The fruit and vegetable stall was set up in the school's playground by the main entrance to the school and within the school fence and could be accessed by visitors to the Children's Centre as well as by parents collecting their children from the school.

"This is important as it gives the stall a very positive energy providing not only a place for a diverse and mixed group of people to buy fresh produce but also a relaxed and pleasant social hub and meeting place."

"The stall opens a door to their life"



Rose Vouchers in Action

"It's much more than a place to buy fruit and veg. and improve your diet – it's an avenue for engagement and connection"

"It's not like a course, you don't have to sign in, it's easy to engage – it allows people to step over the door step"

"The stall becomes a reason to stop and have a conversation"

Budgeting

Concerns over being able to afford fruit and vegetables have been overcome by many participants because the vouchers can only be used for this produce.

"I'm happy as I can now use HS for milk without worrying about needing to keep some for fruit and veg."

"Since receiving the vouchers I have been able to buy fruit and veg for myself and children whereas before I was more concerned on paying my bills"

"Before the Rose Vouchers I used to spend £10 a month on fruit and veg, now I spend £10 a week"

The project has also had an influence on budget prioritisation

"... Since the vouchers have stopped, I sacrifice other things to keep up healthy living"

For one participant the focus on the benefits of buying fruit and vegetables made them a higher priority than even fixed budget items.

"Delayed paying Council Tax to keep buying fruit and veg."

Eating habits

The comments from participants indicate some significant changes in behaviour around food and meals.

"This project is great, it has been a big change for my family. It makes my family eat a lot of fruit and vegetables."

"My daughter just wants to eat fruit and veg since I've been working on the stall. (Brookhill)"

"As a Rose voucher receiver, I am able to provide the important nutrients for my family and it encourages me to eat and cook healthy meals."

"I can buy a much bigger variety of fruit and veg throughout the month."

This evaluation did not measure changes in non-food related behaviours however it is of note that both participants and Children's Centre staff reported positive changes in the confidence and personal behaviour of participants, particularly participants who were given a level of responsibility such as running the fruit and veg stalls at Mulgrave and Brookhill. The positive effects of being involved in the project as a participant and or a project volunteer are documented in more detail in the forthcoming final project report (www.Alexandrarosecharities.org.uk).

Balanced meals

Participants commented on a significant change in the meals they ate and in particular a reduction in the amount of carbohydrate and meat. More vegetables in many cases meant less 'filler' refined carbohydrates. This also had benefits from increased fibre in the diet.

"I'm eating less carb because I have more veg."

"More veg and salad with meals, less rice and potato "more balanced plate"

"Family prefers more vegetables over meat".

"Used to fill up on cassava and now just add more veg to the meal".

“There is more veg on our plates”.

“I have more choices in ingredients to change up our meal”.

Health and well-being

Participants talked in general terms about feeling healthier and happier as a result of the project as well as identifying specific health impacts.

“I am seeing health benefits, and I have changed my attitude towards what I eat”.

“I feel so much healthier and happier in myself and so do my children”.

“My asthma is reduced”.

In one workshop (Brookhill) participants talked specifically about the impact of increased fibre in their diet on regular and easier bowel movements.

“I used to eat 'African' food (beans and yam), I was heavy and bloated. Having more fruit and veg means I don't snack on crisps and biscuits, now I'm much more regular”.

“I feel light and active”.

“My daughter has much less constipation”.

FINDING: The Rose Voucher scheme has not increased spending on unhealthy food and therefore has improved the diet and diet related behaviours of families.

We have found this because the reported intakes of crisps, fizzy (sugary) drinks, and sweets and chocolate, Table 2, show a steady state in intake of all 3 types of food and drink during the Rose Voucher scheme.

The average intake of food that we used as indicators of an unhealthy diet has from the data remained unchanged. The exception to this is Hackney Daubeney where there has been decrease in fizzy drinks in adults.

The trend is generally a decrease in intake of unhealthy snacks, but the results don't suggest that this is likely to be due to the Rose Voucher scheme. It's important to note that there has been no significant increase in eating crisps and sweets and chocolates, nor an increase in fizzy drink intake.

This suggests that any additional money that families have as a result of the Rose Voucher scheme is not being used to buy additional unhealthy food.

	Woolwich Brookhill			Woolwich Mulgrave			Hackney Daubeney			Hackney Sebright		
	Pre	Post	P value	Pre	Post	P value	Pre	Post	P value	Pre	Post	P value
Crisps All	0.65	0.90		0.45	0.57		0.34	0.38		0.50	0.86	
Crisps Children	0.85	1.00	0.77	0.70	0.71	0.68	0.47	0.63	0.35	0.35	1.29	0.50
Crisps Adults	0.46	0.65	0.17	0.20	0.44	1.00	0.24	0.13	0.35	0.64	0.43	0.17
Fizzy drinks All	0.83	1.31		1.60	1.13		1.22	0.63		0.94	1.29	
Fizzy drinks Children	0.88	1.24	0.59	1.60	1.15	0.58	1.13	0.88	0.56	0.56	1.29	0.71
Fizzy drinks Adults	0.79	1.11	0.53	1.60	1.12	0.78	1.29	0.38	0.08	1.39	1.00	0.21
Sweets & chocolate All	0.91	0.88		0.55	0.64		0.78	0.19		0.65	0.64	
Sweets & chocolate Children	1.16	0.95	0.59	0.60	0.75	0.17	0.67	0.38	0.28	0.35	0.71	0.78
Sweets & chocolate Adults	0.68	0.80	0.85	0.50	0.56	0.20	0.88	0.00	0.15	0.94	0.57	0.45

Table 2 Change in intake of crisp, fizzy drink, sweets and chocolate intake post intervention – adults and children

24hour diet intake indicators of poor diet, crisps, fizzy drinks, sweets and chocolate – children and adults. Self reported behaviour of participants supports this finding:

Eating habits

Snacking

Many commented on changes in the snacks they eat between meals – a change corroborated by the food diaries

“Fruit has become a better option for snacks.”

“Less biscuits as snacks, more fruit.”

“More fruit based snacks, like smoothies.”

Less junk food

This also encouraged a move away from fast food and junk food

“Helps parents to move away from junk food – supports healthy eating for families on smaller budgets”.

“Now I crave salad rather than kebab”.

FINDING: The Rose Voucher scheme has possibly increased the numbers of meals cooked from scratch in two centres and has slightly decreased the numbers of ready meals eaten in one centre. This indicates improved diet and diet related behaviours of families.

We conclude this because:

Cooking from scratch: From Table 3 it's clear that there was an increase in cooking from scratch at 2 centres, Woolwich Brookhill and Hackney Sebright, even though there was an increase neither result was statistically significant. Cooking sessions took place in all 4 centres but low numbers meant that not a significant number of Rose Voucher participants took part. From qualitative data those that did take part in the cookery sessions – they helped the families significantly with new recipes, confidence to cook with new ingredients and to increase the amount of vegetables in their meals.

Decrease in the number of ready meals eaten. Only small numbers of parents reported eating ready meals so we cannot be confident that this change is due to the Rose Voucher scheme. We can however show that in the families that took part in the scheme that very few of them ate ready meals. The cultural / ethnic make-up of the participants at Mulgrave is significant here. There was a larger proportion of white British participants at Mulgrave who were cooking very little from scratch. Whereas at the other children's centres there were higher numbers of afro-Caribbean and BMEC families who report doing more cooking from scratch. The Mulgrave families were starting from a lower base.

Take away: The result for take away meals is similar to the result for ready meals. All centres show that the intake of take away meals is very low in these families and that the Rose Voucher scheme does not appear to have impacted on the numbers of take away meals eaten.

Meal at café / pub: The numbers of meals being eaten in cafes or pubs was again very small, with fewer meals being eaten in the environment than as ready meals or take aways. The results suggest that the numbers of café / pub meals eaten by Rose Voucher scheme families in Woolwich Brookhill did significantly decrease, however the numbers of families reporting eating this type of meal was small and so we cannot be confident of this result.

	Woolwich Brookhill			Woolwich Mulgrave			Hackney Daubeney			Hackney Sebright		
	Pre	Post	P value	Pre	Post	P value	Pre	Post	P value	Pre	Post	P value
Cooked meal from scratch	3.88	4.14	0.24	3.65	3.52	1.00	4.59	4.18	0.34	3.71	4.11	0.21
Ready meal	0.61	0.61	0.54	0.35	0.71	0.04	0.66	0.64	0.62	0.86	0.56	1.00
Take away	0.72	0.48	0.81	0.50	0.52	0.26	0.76	0.69	0.76	0.58	0.67	0.77
Meal -cafe, pub	0.51	0.28	0.03	0.05	0.17	0.34	0.23	0.08	0.34	0.20	0.17	0.33

Table 3 Changes in number of meals prepared from scratch, ready meals, take away and café/pub post intervention


FOOD MATTERS FEEDBACK

Course: Food Matters Cook and Eat **Dates:** 11th June - July 2014

Venues: Comet Children's Centre, Daubeney Children's Centre and Gainsborough Children's Centre

Overview: A series of four 'Food Matters' Cook and Eat courses were run across three children's centres in Hackney. These courses were designed for families participating in the Rose Voucher scheme. Each cook and eat session was structured to provide the participants with the skills and knowledge to make informed food choices and use their vouchers in the best possible way to feed their families healthily. The foods and recipes selected for the course were chosen in consultation with the parents and adapted to include the best produce available at market stalls participating in the voucher scheme. Before starting the course there was a common assumption amongst the parents that fruit and vegetables were too expensive and would go to waste as their children would not eat them. Each sessions was used to introduce a wide range of new ingredients, shown the families how to cook familiar foods in new ways and how to make simple changes to recipes to incorporate more fruit and vegetables. This gave them new realistic recipes that they felt confident to source at the market, able to afford, and happy to cook in the knowledge that they would taste good. Engaging the stall holders at Ridley Road market was a successful choice for the scheme as this broke down perceptions that fruit and vegetables were expensive. However the rotation of staff at the market stalls did lead to issues with the vouchers system as not all staff were aware of the scheme and would not always accept the vouchers.

MAKING A SEASONAL CHEESECAKE RECIPE WITH THE FAMILIES AT COMET CHILDRENS CENTRE



"I AM REALLY ENJOYING HOW TO COOK TASTY FOOD WITHOUT SALT AND SUGAR. I HAVE STARTED USING LESS SALT AND SUGAR AT HOME AND I HAVE BEEN USING THE RECIPES I LEARNT ON THE COURSE, ALL THE FAMILY REALLY ENJOY THEM. GREAT COURSE AND THE STAFF ARE VERY FRIENDLY AND EXTREMELY KNOWLEDGEABLE (C-PARENT)

socialkitchen.org.uk @SocKitchenCIC /SocialKitchenCIC

Cook and Eat- session feedback

Eating habits

Cooking from scratch

An increase in preparing food from scratch suggests an increase in thinking about the food that the family is eating and the way that this food is prepared. Rose Voucher scheme participants report an increased

awareness of both food and cooking. An increase in fresh produce being bought and the cooking sessions at the Children's Centres encouraged and supported participants to cook more at home.

"I cook more rather than slam something in the oven – less ready/frozen meals".

"I do cook more meals from scratch now because I usually always have lots of fresh food at home to use".

"Cook and eat sessions were helpful for ideas on what to do with veg, healthy options and practical tips to make preparation easier - making your own pasta sauce instead of buying it, fresh fruit desserts, making bread"

"I'm trying new things after Kye's session, which is good as I am fussy! I'm also involving my daughter in the cooking".

"The Cook and Eat course was very accessible - ingredients from Ridley Road (Hackney) were used in the recipes and recipe sheets given out at the end of the session".

"Instead of buying a jar of pasta sauce I'm now cooking from scratch using a big pot and freezing the extra. It's cheaper now to cook from scratch, before RV a jar was cheaper".

Experimentation

Having vouchers just for fruit and vegetables greatly reduced the risk associated with trying something new.

"Kids are now able to try out new veg, like avocado, which are much cheaper on the stall. Vouchers mean I can try new stuff - less risk".

"I'm now experimenting with different foods, like beetroot".

"I'm more adventurous and explore ideas that I have never tried before".

"It has helped me to try different types of fruit and veg for me and my family. Less worry and risk".

"I have bought fruit and veg that I haven't tried before which I actually enjoy eating now".

"Because it is more affordable, we are able to experiment with new foods".

Attitude and awareness

Participants acknowledged that through the project they had become much more conscious and aware about what they and their families were eating and how their diet affects their health and well-being.

"Having more fruit and veg has become custom. We always have because my daughter drinks more fresh fruit juice."

"My children see me and my husband eating fruit - they see that it's a good thing to do."

"On the RV project, my kids ask: "Mummy, are you working in a fruit shop or what?"

"The healthy cooking course and the Rose Vouchers have helped me to eat healthier."

"I pay more attention to what I eat; I am more thoughtful and aware."

"The cooking session helped me to learn to read the labels on food products and avoid added sugars."

"It's an encouragement for us to eat healthily, especially for the children."

"My daughter is eating healthier snacks and meals because she sees me eating healthier food."

Finding: The Rose Voucher scheme appears to have increased the amount of money spent on fruit and vegetables as a percentage of the family budget.

We reviewed how much families were spending as a percentage of their budget before and during the scheme, the results are in Table 4, and it's not possible from these results to clearly point to a change in spending pattern for this reason we looked at reported intake and behaviour in more detail.

We have found this because the reported spending on fruit and vegetable, Tables 4, shows a crude increase in spending on fruit and vegetables in Woolwich Brookhill, Hackney Daubeney and Hackney Sebright.

Baseline and mid intervention:

Centre	% spend on fruit and vegetables (mean) Baseline	% spend on fruit and vegetables (mean)
Woolwich Brookhill	12% (total spend) 33% (food spend)	14.4% (total spend) 39.9% (food spend)
Woolwich Mulgrave	17.9% (total spend) 41.6% (food spend)	14.8% (total spend) 35% (food spend)
Hackney Daubeney	12.5% (total spend) 33.5% (food spend)	16.7% (total spend) 49% (food spend)
Hackney Sebright	11% (total spend) 26% (food spend)	16% (total spend) 46% (food spend)

Table 4 Crude weekly spend of fruit and vegetables % total spend and % food spend

Breast milk and formula milk review

FINDING: It was not possible to determine the impact of the Rose Voucher Scheme on breastfeeding and bottle-feeding

We conclude this because a review of breast and bottle-feeding indicates that in 50% of women who were pregnant there was an intention to breast-feed, however the intention could not always be followed. There were 2 intended breast feeders who became combined breast and bottle feeders by mid evaluation (approx. 3 months). The numbers of pregnant and breastfeeding women were very small approximately 12 pre –intervention (3 per site).

We measured any difference in milk purchasing pre and post Rose Voucher scheme. There was very little change in the average purchasing of milk, although parents did suggest that the scheme enabled them to purchase milk without worrying so much about money.

“I’m happy as I can now use HS for milk without worrying about needing to keep some for fruit and veg”.

	Woolwich Brookhill			Woolwich Mulgrave			Hackney Daubeney			Hackney Sebright		
	Pre	Post	P value	Pre	Post	P value	Pre	Post	P value	Pre	Post	P value
Amount milk / week	4.65	4.95	0.40	5.87	6.08	0.81	8.40	8.71	0.62	9.08	5.57	0.26

Table 5 Changes in purchases of formula milk post intervention

5. Feedback from Children’s Centre and Project staff

“The Rose Voucher project is one of the best things that’s happened at this Children’s Centre – it’s such a shame it’s ended”

Mulgrave Children’s Centre, Greenwich

The **Rose Vouchers for Fruit and Veg** pilot project was delivered in 4 Children’s Centres in Hackney and Greenwich for 10 months from September 2013 to June 2014. Eighty-one families took part in the project, approximately 40 in each borough. Over 7,400 vouchers were distributed over a 6-month ‘live invention’ period with 7,155 vouchers having been spent on fresh fruit and vegetables at local markets.

Operations of Rose Voucher Scheme at a local level

The processes set in place locally at Children’s Centres to deliver the Rose Voucher Scheme did successfully deliver the outcomes of providing families with vouchers that they could use to obtain fruit and vegetables locally.

At all Children's Centres the staff reported that they perceived the scheme positively and would participate again, with their post intervention knowledge.

If you knew at the beginning of the project what was involved would you still have got involved?

Yes I would.

Sebright Children's Centre, Hackney

Yes, the Hackney CCs have been very happy to have been involved in the RV project. The benefits certainly outweigh the additional work. Continuation of the project is possible and desirable and the CCs can accommodate the additional work within existing staffing levels however it is only possible if there is additional funding to cover the costs of the vouchers and other project costs.

Daubeney Children's Centre, Hackney

Have the benefits outweighed the additional work the CC has experienced?

Absolutely.

Daubeney Children's Centre, Hackney

Being involved in the Rose voucher project has been exciting and I've learnt a lot over the time the project has been running. It has been extra work but well worth the effort "the journey was a good one".

Daubeney Children's Centre, Hackney

What worked well?

The scheme worked well locally as reported above, no specific comments were made about the technical functioning of the scheme however there was a great deal of feedback on the positive outcomes and unintended consequences.

- *The best thing about this project is listening to families including the children speaking about healthy food with a smile.*
- *The support and interest the project has received*
- *The additional funding the project has attracted*
- *Things were organised well and supported by Food Matters all the way.*
- *The setting up process to identify parents eligible to register on this project needed more time.*

Sebright Children's Centre, Hackney

The Rose Voucher Scheme has increased the number of vulnerable families receiving Healthy Start, and in some cases, changed the perception of what support the Children's Centre could offer.

The scheme has led to changes to service provision and in how the Children's Centres identify and support service users. Firstly before being involved in the Rose Voucher project the Children's Centres were largely uninvolved in identifying Healthy Start entitlement. However because participation in the Rose Voucher project required families and pregnant women to be either receiving or eligible for Healthy Start the Children's Centre has become more aware of those families using their services that were almost certainly entitled to Healthy Start but weren't

receiving the benefit. As a result the Children's Centre started to support families through the Healthy Start application process, helping complete the forms and signposting those families to the right health professional.

Secondly involvement in the Rose Voucher project has had a direct impact on how the Children's Centre delivers services. As a result of being involved in the Rose Voucher project the Children's Centre made a successful proposal for public health funding to run a new intervention called 'Babies first food'. This intervention was delivered by an outside organisation (Social Kitchen). This was a relatively expensive intervention but very successful and was largely possible because the Rose Voucher project helped make the case for such services being commissioned after Extended Services core budgets having been cut over recent years.

Being involved with the Rose Voucher project has encouraged the CCs to run very successful gardening projects with vulnerable families. The gardening project has helped families develop better, more positive relationship with one another, and also a greater awareness of the benefits of eating fresh foods.

Extended Services Manager, Hackney

Other Children's Centres have reported positive changes in individual behaviour that has been reported previously in this evaluation.

What could be improved?

"The Retailers haven't always displayed their posters."

"Not enough retailers are signed to the project."

Sebright Children's Centre, Hackney

Impact of Rose Vouchers on breastfeeding uptake

Too few Rose Voucher project participants were breastfeeding their babies to produce meaningful stats on this issue.

Daubeney Children's Centre, Hackney

Market Traders

It is essential that market traders perceive a financial or social benefit to being involved in the Rose Voucher Scheme. The scheme also requires the support of the market managers.

Recruitment

"The market traders took some persuading, as a group they largely want to see that someone else has done it first so they can see the benefits / downsides before they commit. They were concerned there would be too much paperwork involved. However we managed to get some of the key traders involved and other others came on board as a result."

“Some traders have seen the amount of vouchers the participating traders are receiving on a monthly basis and have got involved as a result.”

For more market traders to be recruited traders need to see the benefit of the Rose Voucher Scheme.

“The traders need to be shown the benefits of being involved i.e. amounts of extra money coming to the stalls that are already accepting the Rose Vouchers. We also need to publicise the Rose voucher project in any newsletters or information we send out to the traders. Encourage word of mouth between traders. It’s an on-going job that needs regular attention which it doesn’t always get (depending on how busy we are with other market work).”

“Some of the traders are more entrepreneurial than others, have good customer relations skills, see the value is getting new customers to the market even if they have less money to spend than some of the more affluent shoppers.”

“Others report that they run their stalls on a cash basis only as they need cash to buy stock at the wholesalers and the time it takes for the vouchers to be reimbursed is too long for them.”

Ridley Road Market Manager

How much work has been involved?

The market manager reports that being involved in the project has meant quite a bit of extra work for him and his staff but that the project has been widely supported at senior manager level at the Parking, Markets and Street Trading Services department at Hackney Council.

Collection and reimbursement

“The collection and reimbursement process for the rose voucher project works well after a few teething problems at the beginning however it is time consuming at certain times of the month. If the project continues the market staff would want to streamline the process.”

Ridley Road Market Manager

“The extra work is partially due to the fact that the Market staff have a fairly open / casual approach to collection and reimbursement as they suggest that the traders would lose interest if they were too strict.”

Ridley Road Market Manager

Benefits for the market

*“The project is seen to be good for the market and good for customers, especially low income customers and good for Hackney in general. The market manager reports that they have seen an **increase in footfall** in the market, an **increase in traders taking regular pitches**, and an **increase in the flow of people passing through the market.**”*

*The market manager also reports that traders have seen an **increase in their income, people are spending more money in the market alongside using their Rose Vouchers** (this is addition income as the value of vouchers received by traders is off set against their market stall rent on a monthly basis).*

“The Rose voucher project has opened up the market to customers who would not normally shop at the market.”

Ridley Road Market Manager

6. Conclusion

The Rose Voucher Scheme adds value to the diet and health related behaviours of young families; additionally indicators suggest that the current scheme is operating in conditions that would support sustainability.

Indicators suggest that the current scheme has increased vegetable and fruit intake in both children and adults, the improvements in diet haven't been accompanied by displacement of spending to unhealthy foods there is good evidence that the scheme has improved health related behaviours linked to increased vegetable and fruit intake in both children and adults. There has been a slight increase in the numbers of meals cooked from scratch in two centres which indicates an additional possible improvement in diet related behaviours.

The three major stakeholder groups - **parents, Children Centre staff and market traders all reported that after initial teething problems the scheme operated effectively.** All expressed a desire for the scheme to continue. Very few negative outcomes were reported, and these were minor and resolvable, such as market traders not displaying signs. Many additional positive outcomes were reported. For **Children's Centres** the scheme supported integrated working making the staff consider if attendees were eligible for Healthy Start Vouchers; additionally in Mulgrave they reported improved self-confidence in centre attendees involved in running the programme. **Market traders** also found positive benefits aside from increased cash flow, the perception was that the scheme increased footfall through the market bringing people who did not normally make purchases from the stalls.

From DEFRA research (Department for the Environment, Farming and Rural Affairs) we know that many hardworking families in the UK are living in poverty and do not have enough money to buy a decent diet¹¹. Food prices have risen 12% since 2007 when the recession hit Britain. In the same period UK workers have suffered a 7.6% fall in real wages¹². The Rose Voucher Scheme is supporting the most vulnerable in society to address food poverty, women and children, and particularly women with very young children. An adequate and fair healthy standard of living is critical to reducing health inequalities. Insufficient income is associated with worse outcomes across virtually all domains, including long-term health and life expectancy.

How can diet help in reducing the gap in life expectancy?

Excess weight is a leading cause of type 2 diabetes, heart disease, cancer and maternal obesity. It can lead to complications in childbirth for mother and baby. The costs of obesity to the NHS have been estimated to be over £5 billion¹³. Obesity disproportionately affects those people in the poorest communities. Obesity can reduce life expectancy on average by nine years through premature death.¹⁴

¹¹ DEFRA. Food Statistics Pocketbook. London: DEFRA, 2013: 18.

¹² Wales P, Taylor C. Economic review, April 2014. London: Office for National Statistics, 2014.

¹³ Department of Health, 2011

¹⁴ Whitlock et al., 2009

Dietary intake and eating behaviours are related to socioeconomic status; those from a higher socioeconomic background tend to eat more healthily than those from a lower socioeconomic background. For example, the Health Survey for England showed that those in the higher income quintiles were more likely than those in the lower income quintiles to consume the recommended five portions of fruit and vegetable per day¹⁵.

The Rose Voucher Scheme has successfully increased vegetable and fruit intake in both children and adults. In parallel it has supported behaviour change, and this behaviour change has resulted in money spent on unhealthy food staying steady rather than increasing, the net effect being an improvement in diet of both adults and children.

Dietary goals to prevent chronic diseases emphasise eating more fresh vegetables, fruits and pulses and more minimally processed starchy foods, but less animal fat, refined sugars and salt. Over 100 expert committees have agreed on these dietary goals.

Whilst there is wide agreement on what we should eat, being able to buy the right food is, for many, a real issue. Availability and choice of food depends on social, cultural, political and economic environment. "The importance of access to good, affordable food makes more difference to what people eat than health education."¹⁶

The Rose Voucher Scheme has mediated affordability and enabled families to have access to 'hot' meals prepared from scratch; this was accompanied by a slight decrease in ready meal intake suggesting consideration of food prepared by the families supported by the scheme.

Food poverty is increasing^{17,18}. The gap between those who can afford a wholesome diet and those who cannot is growing. It is clear from the evidence in the introduction to this evaluation that poor quality food intake and low income has significant health consequences including increases in low birth weight, increases in early births (increased number of premature babies) Additional food, such as provided by the Rose Voucher Scheme has a significant impact on these health outcomes¹⁹. This food poverty is not simply affecting families who do not have an employed person in the household, working households are also now in a position where they cannot afford a decent diet.

Additionally food costs are increasing above wage increases. The rising cost of food over the past six years is proving increasingly difficult for low-income households to manage. The food industry is well aware of this issue; however it is likely that food costs will continue to increase. During the past five years food inflation has been one of the three top factors in price inflation. In a time of high fuel prices this has translated into families cutting back on foods that are perceived as expensive such as fruit, and substituting high fat, high sugar foods that are more affordable and more satisfying. This in turn feeds the obesity crisis by adding calories to already inadequate diets without adding other vital nutrients such as vitamins and minerals²⁰. This sets up a vicious cycle of poor nutrition and poor health with outcomes such as diabetes and heart disease.

¹⁵ Social and economic inequalities in diet and physical activity (2013) Public Health England.

http://www.noo.org.uk/uploads/doc/vid_19253_Social_and_economic_inequalities_in_diet_and_physical_activity_04.11.13.pdf

¹⁶ R Wilkinson and M Marmot (2003) Social determinants of health: the solid facts. 2nd edition. Denmark: WHO

¹⁷ Taylor-Robinson D, Rougeaux E, Harrison D, Whitehead M, Barr B, Pearce A. The rise of food poverty in the UK. *BMJ* 2013; **347**: f7157.

¹⁸ Wales P, Taylor C. Economic review, April 2014. London: Office for National Statistics, 2014.

¹⁹ Almond, D., Hoynes, H.W., Schanzenbach, D.W. (2008) Inside the War on Poverty: The Impact of Food Stamps on Birth Outcomes. Institute for Research on Poverty. Discussion Paper no. 1359 – 08.

²⁰ Ashton, JR., Middleton, J and Lang, T (with 170 signatories) (2014) Open letter to Prime Minister David Cameron on food poverty in the UK. Available at [http://dx.doi.org/10.1016/S0140-6736\(14\)60536-5](http://dx.doi.org/10.1016/S0140-6736(14)60536-5) Accessed 31st July 2014.

The Rose Voucher Scheme has clearly provided families with the opportunity to try new fruits and vegetables, which they would not normally have been able to afford to waste if they'd been unacceptable. In turn these families have incorporated the fruit and vegetables that they enjoyed eating into their diet.

A third issue is stagnant wage rates among low paid workers. In real terms incomes have fallen for the first time since the 1960's. The ONS calculates that there has been an average decrease of 7.6%²¹.

The combined issues described above put an overwhelming strain on family budgets. This examination of cause shows that the overwhelming factors that impact on food poverty are outside the control of the family. Action taken by a family is not sufficient to make the necessary improvements to health and wellbeing. Failure to address such issues comes at a great cost to individuals, communities, groups, employers and nationally to government. Whereas investing in addressing the underlying causes of food poverty can be demonstrated to be positive both financially and socially.

The Return on Investment for additional food provision is £3.25 for each food £1 invested (225% Return on Investment)²². This estimation is based on evidence from prenatal participation in WIC (Special Supplemental Nutrition Program for *Women, Infants, and Children*), which has been demonstrated to save health care dollars on preterm births. Pre-term births cost the U.S. over \$26 billion a year. The average first year medical costs for premature/low birth-weight baby are \$49,033 compared to \$4,551 for a baby without complications. For very low birth-weight babies, a shift of one pound at birth saves approximately \$28,000 in first year medical costs Medicaid costs are reduced on average between \$12,000 and \$15,000 for every very low birth-weight incident prevented.

It costs approximately \$743 a year for a pregnant woman to participate in WIC . WIC prenatal care benefits reduce the rate of low birth-weight babies by 25% and very low birth-weight babies by 44%. Prenatal WIC participation is associated with an increase of 6.6 oz. for low birth-weight babies. Every dollar spent on pregnant women in WIC produces \$1.92 to \$4.21 in Medicaid savings for newborns and their mothers²³

The Rose Voucher Scheme adds value to the current welfare support system. It is not possible to be definitive about the absolute return on investment but it is clear from the arguments that the Rose Voucher Scheme contributes to the 225% return on investment as a result of extra healthy food being provided.



²¹ Office for National Statistics. An examination of falling real wages, 2010–2013. London: Office for National Statistics, 2014.

²² Oliveira, V and Frazao, E (2009) The WIC Program: Background, trends and economic issues. USDA, Economic Research Service. Economic Research Report Number 73.

²³ <http://www.paramountcommunication.com/nwica/WICReturnonInvestment.pdf>. Web. 26 Mar. 2013. Accessed 10th October 2014