Executive Summary

The UK as a whole has an ageing population and this is expected to impact on health care and social costs. Nutrition is an integral component of health through the life cycle and optimal nutrition in later life has a role in preventing and delaying morbidity, helping older people to maintain their independence and improving overall quality of life. Identifying the nutritional needs of older people, the barriers to meeting these needs and the interventions to improve nutritional intake creates potential to reduce costs in social and health care.

No data is routinely collected on food intake and nutritional status of people aged 65 years and over in Tower Hamlets. No information is available regarding the prevalence of malnutrition and obesity in older people living in the borough. Analysis of secondary care data showing reason for hospital admission from 2011/2012 indicated 9% of people over the age of 65 years admitted to hospital had a micronutrient deficiency, of which 14% had a nutritional deficiency as the primary reason for admission to hospital. This is likely to be an underestimation as not all patients are likely to have their micronutrient status assessed during their hospital stay. In addition this data does not include patients with protein energy malnutrition.

There are a number of services available in Tower Hamlets that have the potential to influence food intake and nutritional status of older people, including community initiatives such as lunch clubs and meals on wheels. There appears to have been no previous evaluation of these services and therefore no evidence of effectiveness was found.

Recommendations

Key recommendations:

1. Process and outcome evaluation of current services. Criteria for evaluation that is relevant to food and nutrition include:

   *Process evaluation*
   - Delivery coverage. Whether services are reaching their target population.
   - Programme utilisation, for example number of service users and attendance.
   - Food intake behaviour of service users, such as number of meals per day and number of hot meals per week.
   - Nutrient content of meals provided, assessed against the Caroline Walker Trust guidelines.²¹

   *Outcome evaluation*
   - Nutritional status assessed for example via anthropometry (e.g. body mass index) and micronutrient status (iron, folate, vitamin D)
   - Quality of life.
   - Functional status
   - Morbidity, such as prevalence of falls and hospital admissions
   - Mortality rate
2. Implementation of a nutritional assessment programme in order to establish the level of risk of the elderly population living in Tower Hamlets. As well as providing surveillance data, screening would enable early identification of individuals who might otherwise be missed. The community and public health dietetic team of Tower Hamlets will be able to advise on an appropriate validated tool. We see an opportunity to extend screening beyond hospital, care homes and GP practices, to centres and services that are frequently in touch with the older people living in the community (e.g. LinkAge Plus centres, day care centres, home care, etc).

3. Work with social services to include a nutrition-focused section into the FACE document used in the Single Assessment Process\(^1\). This would facilitate reaching individuals with less access to health services. An example of a validated assessment tool is provided in appendix 1.

4. In context with the previous two recommendations, we suggest that a malnutrition care pathway should be developed for the elderly.

5. There is scope for potential impact of introducing community dietetic services for older people.

6. Ensure Caroline Walker Trust nutritional guidelines for food prepared for older people is adhered to in services that provide meals to older people (i.e. LinkAge Plus, Care homes, Meals on Wheels, etc).

7. Ensure Care homes comply with Essence of Care benchmarks for food and drinks.

8. Make pictorial menus available, especially to residents and service users with dementia.

9. Ensure all older people are assessed for micronutrient deficiencies and malnutrition upon hospital admission. Regular audits of nutrition assessment on hospital wards have shown that this process is not always followed. For more information contact dietetic department at Mile End Hospital.

---

### 1. What is Food and Nutrition?

#### Overview

The elderly population comprise of a diverse population group with wide ranges in age, levels of activity, fitness, frailty and dependency. The National Standard Framework suggests older people can be categorised into three groups: people entering old age, transitional phase and frail older people (See the Older People JSNA fact-sheet for more detail). Older people usually have a greater need for health and social services compared to the young. People aged over 65 in the UK use three and a half times the amount of hospital care of those aged under 65 and account for approximately 65% of NHS spend.

The UK as a whole has an ageing population and this is expected to impact on health care and social costs. Nutrition is an integral component of health through the life cycle and optimal nutrition in later life has a role in preventing and delaying morbidity, helping older people to maintain their independence and improving overall quality of life. Identifying the nutritional needs of older people, the barriers to meeting these needs and the interventions to improve nutritional intake creates potential to reduce costs in social and health care.

**Physiological effects of ageing**

The Ageing process is accompanied by physiological and biochemical changes, which may potentially impact on an individual’s food intake and nutritional status. Ageing is associated with reduced functional capacity (i.e. reduced ability to perform activities of daily living), changes in body composition (i.e. reduction in lean body mass and increase in fat mass), worsening of oral health and deterioration of senses of taste and smell. Other factors that may place the elderly at risk of nutritional inadequacies include wider determinants of health such as deprivation, poor quality of housing, social isolation, poor access to local services and amenities.

**Nutritional status and eating habits of older people – UK**

The National Diet and Nutrition Survey (NDNS) found that intake of most nutrients fell with increasing age. Older people had significantly lower intakes of energy, protein, carbohydrates, fibre, vitamins and minerals than younger adults. In addition, they had an intake of saturated fat and non-milk extrinsic sugars above COMA recommendations. These are the dietary reference values for food energy and nutrients for the United Kingdom. It is recommended that no more than 11% of food energy comes from saturated fat, moderating the fat intake in the older population may have an influential impact on reducing the risk of heart disease in the older population.

---

2 Older People Fact sheet, 2011
Food containing non milk extrinsic sugars contains calories but is lacking in other vital nutrients which the older population require to remain healthy and may also lead to dental decay in those without dentures. The survey found that older people living in residential care were more likely to consume sugar, preserves, buns, cakes and pastries and cereal based milk puddings. In addition, their oral health was poor compared to those who were living outside of care accommodation. Importantly, the better their oral health, the better their diet and nutritional status.

Common nutritional problems affecting older people

Malnutrition

Malnutrition is defined as ‘a stage in which a deficiency of energy, protein and/or other nutrients causes measurable adverse effects on tissue and body form, composition, function or clinical outcome’ (in this factsheet, the term malnutrition is not used to cover excess nutrient provision, overweight and obesity is discussed separately below). Serveral markers such as anthropometric and clinical markers have been used to assess malnutrition, and this contributes to varying reports on its prevalence. Nevertheless, malnutrition is common and the elderly is especially at risk (for reasons discussed above). Malnutrition is associated with increased risk of infection, impaired lung and heart function, delayed wound healing, muscle weakness and depression. Furthermore, malnourished people are more likely to be admitted to hospital, have longer lengths of hospital stay and more likely to die compared to those that are adequately nourished. Prolonged poor dietary intake may itself be life-threatening.

Malnutrition is estimated to cost the UK over £7.3 billion a year and over half of these costs are spent on those aged over 65 years. It is estimated that up to 90,000 people in the UK who receive home care services could be at risk of malnutrition.

Vitamin D, Calcium and bone health

In older people, vitamin D and calcium are important in order to help maintain bone health. Osteoporosis and fractures are major causes of morbidity and mortality among older people. Older people are at increased risk of vitamin D deficiency due to a combination of factors: reduced sun exposure (especially those living in institutions), decreased skin synthesis of vitamin D, reduced dietary intake of sources of vitamin D and reduced renal hydroxylation of vitamin D into its active compound. Vitamin D deficiency in adults causes bone tenderness.
and muscle weakness (osteomalacia) and may have a contributory role in the development of osteoporosis. SACN\textsuperscript{11} recommends dietary supplementation with 10\(\mu\)g/day for older people as they are unlikely to meet requirements.

**Overweight and obesity**

Being overweight is a key risk factor for multiple co-morbidities such as developing diabetes and an increased prevalence of osteoarthritis of the knees\textsuperscript{2}. However in the very old, an increased BMI may have a protective effect. Evidence shows that a BMI of up to 29kg/m\(^2\) is acceptable for older people and may in fact be of benefit\textsuperscript{12-13} The issue of malnutrition tends to be a bigger issue within this population group.

### 2. What is the local picture?

The older population in Tower Hamlets is atypical as people aged 65 and over make up a relatively small proportion of the Tower Hamlets population in comparison to London and England as a whole.

Tower Hamlets is ranked the third most deprived borough nationally and socioeconomic deprivation is the most important factor accounting for health inequalities in the borough. There is greater need for health and social services amongst the Tower Hamlets older population compared with neighbouring boroughs\textsuperscript{1}. For further details regarding demographics, deprivation levels and health status of the older population in Tower Hamlets please see The Older People JSNA factsheet\textsuperscript{1}.

No data is routinely collected on the nutritional status of people aged 65 years and over in Tower Hamlets. A locally designed Health and Lifestyle survey indicated that 90\% of older people do not eat the recommended five portions of fruit and vegetables a day\textsuperscript{14}. No data is available regarding macro- and micronutrient intake, prevalence of malnutrition, and obesity specific to older people in Tower Hamlets.

Analysis of secondary care data showing reason for hospital admission from 2011/2012 indicated 9\% of people over the age of 65 years admitted to hospital had a micronutrient deficiency, of which 14\% had a nutritional deficiency as the primary reason for admission to hospital. This is likely to be an underestimation as not all patients are likely to have their micronutrient status assessed during their hospital stay. In addition this data does not include patients with protein energy malnutrition\textsuperscript{15}.

### 3. What are the effective interventions?

There is an urgent need for research on the effectiveness of interventions aimed at improving the nutritional status of older people in the community. This is essential in generating a evidence base to inform a co-ordinated


\textsuperscript{13} Beck M and Ovesen L (1998) At which body mass index and degree of weight loss should hospitalized elderly patients be considered at nutritional risk? *Clinical Nutrition*. 17 (5) 195-198.


approach to service provision and evaluation.

- Interventions addressing whole communities and populations are likely to have the greatest impact in preventing malnutrition among the elderly. In the wider environment, initiatives to reduce deprivation and improve housing and local amenities, for example by providing access and advice on benefits and services, have the potential to positively influence nutritional status (e.g. by improving availability and affordability of foods), health and well-being of older people living in the community\(^\text{16}\).

- Community initiatives, such as lunch clubs, ‘meals on wheels’ and transport provision have the potential to impact positively on older people’s dietary intake and nutritional status\(^\text{17}\). Some of these services (e.g. lunch clubs) may also promote social inclusion. This is important, as social isolation is associated with depression, poor mental and physical health, which in turn are associated with reduced food intake\(^\text{18}\).

- There is a lack of research looking at the effectiveness of dietary intervention aimed at older people living in the community. While there is convincing evidence to support the use of oral nutritional supplements in hospital patients that are either malnourished or at risk of becoming malnourished, their benefits in the community are less clear\(^\text{19}\). Education of individuals regarding healthy eating is unlikely to have an effect on its own, but it is an important component of broader strategies.

**Evidence regarding vitamin D suppletion**

- There is strong evidence to support the recommendation for vitamin D suppletionation for people over 65 years old\(^\text{20}\). SIGN guidance\(^\text{21}\) recommends the use of calcium with vitamin D suppletionation for all people over 65 years. There is evidence of a reduction in hip fractures in older people taking oral doses of vitamin D between 700 to 800 IU/day. Although the quality of the cost-effectiveness evidence for prevention of hip fracture is relatively poor, SIGN concluded that calcium and vitamin D suppletionation is the most cost-effective approach. At present, there are no guidelines from Barts and the London regarding vitamin D suppletionation for the elderly\(^\text{22}\).

**Other interventions:**

- Food intake is only one of the factors associated with nutritional status. There is strong evidence that physical activity has a positive effect in functional status of older people. It is possible that a care package

---


Combining diet and physical activity may be more effective than diet alone in improving functional capacity of older people living in the community. However no studies were found to support this.

- Among the elderly population, poor oral health is an important contributing factor in the development of unintentional weight loss associated with protein-energy malnutrition\(^1\)\(^2\)\(^3\)\(^4\). Although on their own oral health interventions are not likely to impact on nutritional status, in combination with dietetic interventions, they may produce significant effects in food intake\(^5\).

- Therefore, interventions aimed at improving oral health have the potential to impact food intake and potentially nutritional status of older people.

**Regarding obesity and its co-morbidities:**

- NICE\(^6\) has produced evidence based guidance on prevention, identification, assessment and management of overweight and obesity in adults. This guidance emphasises that strategies need to be tailored to different groups, particularly minority ethnic groups and vulnerable groups.

### 4. What are we doing locally to address this issue?

Services available for older people in Tower Hamlets that may potentially impact food intake and nutritional status of older people are listed below.

**The wider determinants**

- Tower Hamlets community plan (http://www.towerhamlets.gov.uk/lgs/800001-800100/800022_community_plan.aspx)

This strategy outlines a plan to reduce inequality and poverty, particularly among the most disadvantaged groups. It targets the whole community and has the potential to impact on all groups of the population living in Tower Hamlets including the elderly. The Community Plan focuses on four themes. Objectives include: Improving quality of housing, including maximising energy efficiency; providing effective local services and facilities; fostering greater community cohesion; supporting residents through national welfare reform.

**Community initiatives**

- **Linkage plus** (http://www.towerhamlets.gov.uk/lgs/601-650/640_activities_for_older_people.aspx)


LinkAge plus aims to empower individuals to take more control of their lives. The service is available to people over 50 years old. It is funded by the London Borough of Tower Hamlets and NHS Tower Hamlets, and managed by Peabody. The programme is delivered by five community organisations: Sundial Centre, Toynbee Hall, Sonali Gardens, Neighbours in Poplar and Age Concern Tower Hamlets. The centres provide opportunities for physical activity, social and leisure activities, health promotion and lunch clubs as well as advice on housing and benefits. Within a quarter around 1,300 people access the Link Age Plus service.


  Lunch clubs provide a hot meal, activities and social support for older people. It is available for older people living in Tower Hamlets. They are held in a variety of venues across the borough. Some clubs are linked with LinkAge plus. There are currently 30 lunch clubs for older people in Tower Hamlets. These include 3 lunch clubs specifically for the Chinese or Vietnamese community; 3 for Somali women; 1 for Somali men; and 7 specifically for the Bangladeshi community. No data was available on the nutritional content of the meals.

- **Community and day centres** ([http://www.towerhamlets.gov.uk/lgsl/251-300/296_community_and_day_centres.aspx](http://www.towerhamlets.gov.uk/lgsl/251-300/296_community_and_day_centres.aspx))

  There are several day centres within the borough to assist people to live their lives at home and within the community (i.e. including provision of hot meals and help with food shopping). Referrals to these centres are made following a needs assessment, which identifies a certain level of social, cultural and community support is needed.


  This service offers delivery of hot or frozen main meals to the elderly in Tower Hamlets, and therefore has the potential to directly influence food intake of this population group. No data was available on the nutritional content of the meals.

**Other services**


  Nursing Home/Care Homes are types of residential care and offer people a place of residence who require constant nursing care and who have deficiencies in activities of daily living. No data was available on the nutritional content of the meals served at care homes.


  The Tower Hamlets council offer care in people's own home for those who require assistance with personal care and domestic chores like cooking and shopping. This is a useful service due to the many isolated members of the elderly community within the Tower Hamlets area.
5. What evidence is there that we are making a difference?

There is currently no evidence available regarding the impact of the above mentioned services on the nutritional status of older people living in Tower Hamlets.

An evaluation of the impact of LinkAge Plus was conducted in 2011. Although nutritional status was not one of the evaluation criteria, it found that the average quality of life and health status scores of service users increased significantly over time, which is of relevance. It would be interesting to find out if these improvements were associated with changes in nutritional status. It is difficult to attribute causality to any single intervention as several initiatives are in place at one time. The evaluation also highlighted the need for the programme to attract more men and minority ethnic groups to the service.

In order to explore the quality of food provision and satisfaction of service users, an audit was carried out with all five LinkAge Plus centres and 3 out of 12 care homes in Tower Hamlets. The initial aim was to include also lunch clubs and ‘meals on wheels’ in the audit, however it was not possible to complete a broader audit at this time. A key recommendation is to evaluate all meals provided for their nutritional content against the Caroline Walker Trust guidelines21 (see section 8).

The audit criteria was based on a checklist produced by Caroline Walker Trust27 and also Essence of Care Benchmarks for food and drink28. In addition, feedback from service users was obtained via interview. Results are presented below:

- **LinkAge Plus**
- **Assessment of quality of food provision via Caroline Walker Trust tool:**
  - i. Mealtimes – 100% of centres offered some flexibility regarding timing of meals.
  - ii. Appearance and aroma of foods – All centres provided foods that looked appetising.
  - iii. Flexibility regarding portion sizes and – All centres offered flexibility regarding portion sizes to suit user preference.
  - iv. Special dietary needs and – Only one centre reported to cater for special dietary needs (e.g. additional menus: kosher, ethnic and diabetic). One centre reported that if dietary needs arise they try and cater for it. Another centre reported that due to a lack of funding they were unable to cater for special needs. One of the centres had, in addition to the regular menu, a diabetic, a kosher and an ethnic menu.
  - v. Ambience of dining room – All centres had a suitable dining room, although there was great variation between centres.

**Feedback from service users:**

'I come here from Tuesday to Thursday (service is available on these days only) every week to have a nice hot meal and see my friends. On the other days I don't usually eat a hot meal because I don't like cooking only for myself and then eating on my own’

'The best thing is about the lunch clubs at LinkAge plus is that we can all sit together to have a meal like a family. Also, the staff is great and do whatever they can to provide what we ask for in terms of food’

---


'If it wasn’t for LinkAge plus I would go on for weeks without seeing anyone. I am glad they are able to offer transport, as I would not be able to come on my own’

‘I feel lonely at home. I come here because I enjoy the social stimulation; I like the food and taking part in different activities. I also enjoy meeting people of the same age group and background’.

- **Care homes (3/12)**
  - Assessment of quality of food provision via Caroline Walker Trust tool and Essence of care benchmarks:
    i. Mealtimes – Set times were allocated for mealtimes, usually breakfast: 9.00am, mid morning snack: 11.00am, lunch: 13.00pm, mid afternoon snack: 15.00pm and dinner: 17.00pm.
    ii. Appearance and aroma of foods – All care homes provided foods that looked appetising.
    iii. Flexibility regarding portion sizes – All care homes offered flexibility regarding portion sizes to suit user preference.
    iv. Special dietary needs – All care homes catered for special diets eg. diabetic diet, soft diet, high protein diet etc. Also one care home catered for ethnic diets eg. caribbean food on special occasions.
    v. Ambience of dining room – All care homes had a suitable dining room, which appeared to be bright and clean. One care home used pictorial menus.
    vi. Drinks and snacks – cold and hot drinks as well as snacks such as biscuits, fruit, yoghurts were available to residents throughout the day in all care homes.
    vii. Assistance with eating – Assistance was provided when required in all care homes surveyed.
    viii. Staff education on healthy eating – In one care home a dietitian comes and presents on healthy eating to the staff, this year they have had 2 talks to date. In one other nursing home healthy eating education is given as part of an induction package. In one other nursing home staff will be told at a meeting the importance of healthy eating for the residents.
    ix. Protected meal times – all care homes implemented protected meal time.
    x. Assessment of residents for malnutrition – two of the three care homes used a screening tool (MUST) upon admission and monthly thereafter. A pathway of care for residents identified as malnourished or at risk of becoming malnourished was in place. One care home did not use any validated malnutrition screening tool, although weight was measured monthly.
    xi. Menu cycle – In two care homes the menu was based on a 4 weekly menu cycle. In one other care home the residents recieved meals on wheels or food from Wiltshire Farm foods. Both of which are based on seasonal food choices.

**6. What is the perspective of the public on services?**

Please see quotes from service users above (section 5) regarding LinkAge Plus and Care homes. No data is available regarding public perspective on other services outlined on section 4.

**7. What more do we need to know?**

- Data regarding the nutritional status (malnutrition, vitamin D deficiency and obesity) of older people living in Tower Hamlets in order to determine priorities for intervention.
- Data regarding nutritional intake of older people in Tower Hamlets (e.g. macronutrients, such as protein, fat and saturated fat, and micronutrients, such as iron, vitamin C, folate and vitamin B12).
- More research into the accessability of food and factotrs influencing food intake specific for older people in Tower Hamlets.
- Evaluation data on the different services stated above in Tower Hamlets to assess effectiveness and need for service improvement.
8. What are the priorities for improvement over the next 5 years?

Key recommendations:

1. Process and outcome evaluation of current services. Criteria for evaluation that is relevant to food and nutrition include:
   
   **Process evaluation**
   - Delivery coverage. Whether services are reaching their target population.
   - Programme utilisation, for example number of service users and attendance.
   - Food intake behaviour of service users, such as number of meals per day and number of hot meals per week.
   - Nutrient content of meals provided, assessed against the Caroline Walker Trust guidelines.

   **Outcome evaluation**
   - Nutritional status assessed for example via anthropometry (e.g. body mass index) and micronutrient status (iron, folate, vitamin D)
   - Quality of life
   - Functional status
   - Morbidity, such as prevalence of falls and hospital admissions
   - Mortality rate

2. Implementation of a nutritional assessment programme in order to establish the level of risk of the elderly population living in Tower Hamlets. As well as providing surveillance data, screening would enable early identification of individuals who might otherwise be missed. The community and public health dietetic team of Tower Hamlets will be able to advise on an appropriate validated tool. We see an opportunity to extend screening beyond hospital, care homes and GP practices, to centres and services that are frequently in touch with the older people living in the community (e.g. LinkAge Plus centres, day care centres, home care, etc).

3. Work with social services to include a nutrition-focused section into the FACE document used in the Single Assessment Process. This would facilitate reaching individuals with less access to health services. An example of a validated assessment tool is provided in appendix 1.

4. In context with the previous two recommendations, we suggest that a malnutrition care pathway should be developed for the elderly.

5. There is scope for potential impact of introducing community dietetic services for older people.

6. Ensure Caroline Walker Trust nutritional guidelines for food prepared for older people is adhered to in services that provide meals to older people (i.e. LinkAge Plus, Care homes, Meals on Wheels, etc).

7. Ensure Care homes comply with Essence of Care benchmarks for food and drinks.

8. Make pictorial menus available, especially to residents and service users with dementia.

9. Ensure all older people are assessed for micronutrient deficiencies and malnutrition upon hospital admission. Regular audits of nutrition assessment on hospital wards have shown that this process is not always followed. For more information contact dietetic department at Mile End Hospital.

9. Key Contacts & Links to Further Information

Michele Sandelson, Public Health Dietitian, Michele. Sandelson@bartshealth.nhs.uk, 02070925456

---

<table>
<thead>
<tr>
<th>Date updated:</th>
<th>November 2012</th>
<th>Updated by:</th>
<th>Michele Sandelson</th>
<th>Next Update Due:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signed off by:</td>
<td></td>
<td>Esther Trenchard-Mabere</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix 1. Assessment grid from Caroline Walker trust

Assessment grid

Relevant risk factors and observed warning signals

NAME
ADDRESS

DATE

RISK FACTORS
- living alone
- housebound
- no regular cooked meals
- low mental test score
- clinical diagnosis of depression
-chronic bronchitis/emphysema
-gastroscopy
-poor dentition and/or difficulty in swallowing

WARNING SIGNALS
- Recent unintended weight change ± or - 3kg (7lbs)
- Physical disability affecting food shopping, preparation or intake
- Lack of sunlight
- Bereavement and/or observed depression/toliness
- Mental confusion affecting eating
- High-alcohol consumption
- Polypharmacy/long-term medication
- Missed meals/snacks/fluids
- Food wastage/rejection
- Insufficient food stores at home
- Lack of fruit/juices/vegetables
- Low budget for food
- Poor nutritional knowledge