Nutritional Screening by Age Concern Hampshire using the PaperWeight Nutrition Armbands: Evaluation Report

1.0 Executive Summary

A project was run by the Wessex AHSN to raise awareness of undernutrition identification and sign-posting with Age Concern Hampshire volunteers. In particular, the project aimed to evaluate the usability and effectiveness of the PaperWeight Nutrition Armband (PWA) as a tool for identifying undernutrition in community dwelling older people.

Training (2 hour session) was provided to a total of 24 Age Concern Hampshire staff and volunteers (in a number of different roles) to provide them with the appropriate knowledge and skills to carry out the project (an additional 10 staff and volunteers were trained in the final week of the project data collection period). Once trained, volunteers were then asked to use standard questions (to identify recent unintentional weight loss) and the PWAs to screen older people for risk of undernutrition at events over a three month period. They were provided with a process flowchart and data collection sheets to record screening results and actions taken.

Key results of the project:

- Training increased the knowledge of attendees by 36%, and increased perceived confidence in talking to older people about nutrition and giving nutritional advice by 51%
- 44 older people were screened across the 3-month period
- Screening was done in a variety of locations, e.g. home visits, COPD clinics in GP practices and events
- Screening was carried out by 7 people (6 volunteers, 1 staff member); 17% (n= 4) of the staff / volunteers trained by the Wessex AHSN carried out screening and data collection, whilst 3 received cascade training through Age Concern Hampshire
- The PWA was used with 100% of people screened, whilst the questions (to identify unintentional weight loss) were only used in 64% of people
- 18% of older people (n=8) were found to be at increased risk of undernutrition by being underweight using the PWA and/or had experienced recent unintentional weight loss
- Of the people at increased risk, six had received signposting or had additional information documented on the data collection sheets. All received a leaflet on undernutrition
- Leaflets on undernutrition were given to 95% of people screening (rather than just being given to people at increased risk)
- All volunteers questioned found the PWAs and questions ‘very easy’ or ‘extremely easy’ to use
- Interviews held with volunteers and staff revealed that they found the PWAs a useful tool to initiate conversations around nutrition. Misuse of the PWAs were evident, e.g. using them over clothes
- It was apparent from data collection forms, interviews and post-project surveys that volunteers tended to use the PWAs in isolation, rather than in combination with questions to identify recent unintentional weight loss

The findings from this project suggest that due to the emphasis placed on the PWAs rather than the questions to identify weight loss, there is a need to explore alternative solutions such as a tool focussing on both key standard questions and signposting actions. The PWA should not be used in isolation as it only identifies people who are likely to be underweight already; it does not identify people who may be losing weight or who have recently lost weight unintentionally (the questions need to be used to identify this). Despite the low numbers of older people screened (which may have been for a number of reasons, including the additional paperwork required or feeling that it’s not their role), the increased awareness achieved through training and by running the project is likely to have had wide-reaching effects.

2.0 Project Background & Introduction

2.1 Context

Some of the key documentation and guidance around malnutrition suggests the potential role of the third sector in signposting and supporting people at risk of malnutrition. Whilst Luger et al (2016) concluded that home visit programmes by volunteers had the potential to promote good health and allay social isolation, limited published evidence is currently available to support the role of volunteers in identifying and supporting older people at risk of malnutrition. A project to raise awareness of undernutrition among Age Concern Hampshire volunteers and support them to carry out basic nutritional screening using the PWA was run in by the Wessex Academic Health Science Network (Wessex AHSN) in conjunction with Age Concern Hampshire. PWA was developed by Age UK Salford and Salford Royal NHS Foundation Trust, and is designed to measure if someone's mid upper arm is below 23.5cm (indicating that their BMI is likely to be below 20)[1].

2.2 Aims and objectives

- To evaluate the potential and effectiveness of Age Concern Hampshire volunteers carrying out nutrition (under-nutrition) screening using PWAs and standard questions
- To evaluate the usability of the PWA

3.0 Methods

Initial meetings were held between the Wessex AHSN Nutrition in Older People Programme and the Head of Information Services at Age Concern Hampshire to agree the approach and scope of the project, and develop a project brief. A data collection form was developed, along with a pathway to give volunteers clear instructions of what to do (see appendix 1). Awareness training sessions were then held for the relevant volunteers, which included training on how to use the PWAs.

Following training, the volunteers were expected to carry out the following actions over a six month pilot period (from April to September 2016) with support from the Head of Information Services at Age Concern Hampshire:

- Screen a mixture of clients seen at home (Food and Friendship; village agents) as well as provide a screening service at Age Concern Hampshire events
- Use standard questions and PWA (if appropriate) to determine if the client is either loosing weight or already underweight
- Use the data collection sheets provided to record the screening data and actions taken
- Take action for clients found to be at increased risk of undernutrition, including providing advice (e.g. signposting to local community services like luncheon clubs; transport to the shops), a leaflet on undernutrition, and a recommendation to contact their GP practice
- Follow up conversations (if possible) each month for those clients who were thought to be at increased risk

The information held on the data collection forms was collated by the Head of Information Services at Age Concern Hampshire and the anonymised data provided in excel spreadsheets to Wessex AHSN Nutrition for Older People Programme for evaluation. The data collection forms also had a space for the volunteers to provide any specific feedback on ease of use of the PWA and questions.

The process was reviewed through analysis of the feedback on the data collection form, post-project surveys as well as through a University of Southampton student MSc dissertation, whose dissertation was entitled "A Public Health Process Evaluation of the PaperWeight Armband in screening for

[1] http://www.ageuk.org.uk/salford/paperweight/

malnutrition among older adults"[2]. A summary of the key findings from this dissertation has been used in this report.

4.0 Results

4.1 Training Results

4.1.1 Training numbers & volunteer roles

In total, 34 volunteers were trained by the Wessex AHSN over four training sessions. Table 1 shows the number of people at each session. In addition, there were three observers (one staff member from Hampshire County Council wellbeing service; one staff member from the Community Independence Team and an MSc Public Health student from the University of Southampton) and five volunteers who received one-to-one training from the Age Concern Hampshire Food and Friendship Coordinator. No information is known about the content or effectiveness of this cascaded training. Chart 1 below shows the volunteer roles present across all the sessions. Included in the 34 volunteers trained were five volunteers from the Royal Voluntary Service (RVS) and eight staff and volunteers from Winchester Live at Home Scheme (WLHS). Whilst the latter two charities are different organisations, they partner with Age Concern Hampshire on several projects, in particular the Food and Friendship project. Chart 1 shows the staff and volunteer roles as represented across all the training sessions.

***Table 1**: Number of attendees trained on the dates and locations of training*

Training session	Number of attendees
Basingstoke, 3rd March 2016	8
Winchester, 8th June 2016	9*
Andover, 11th July 2016	7**
Winchester, 28th September 2016	10
TOTAL	**34**

*In addition, two observers were present (from Hampshire County Council & the Community Independence Team)
** In addition, one observer was present (University of Southampton student)

***Chart 1**: Trainee volunteer and/or staff roles*

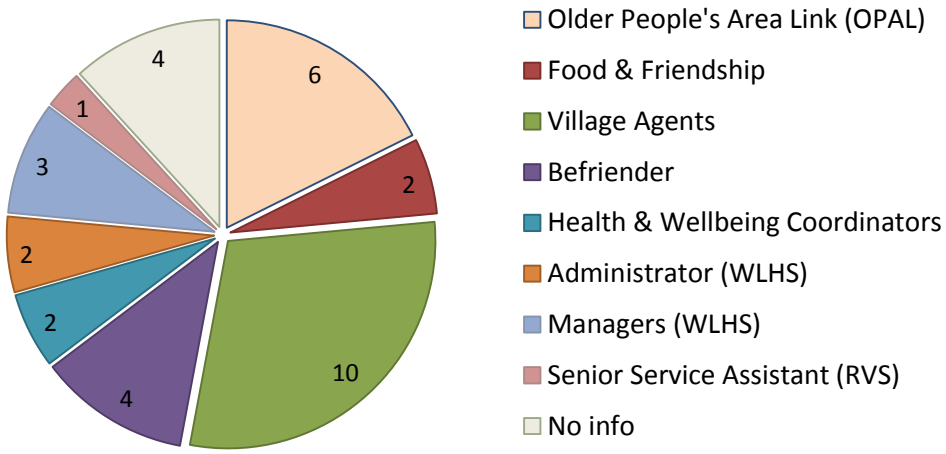

Table 2 on the next page is taken from Till, B, MSc student dissertation and shows the roles of the volunteers who were involved in the project.

[2] Till, B. (2016). Unpublished MSc dissertation, University of Southampton

***Table 2**: Voluntary services involved in the use of the PWA for Age Concern Hampshire*[3]

	Proactive Services	Reactive Services
Description	Volunteers identify individuals that are in need of help with their local communities. Provide information and advice with the aim of enabling these older people to live independently, for as long as possible, in their own homes.	Receive referrals from family members, friends, local GPs, community and district nurses, adult mental health services and other voluntary organisations.
Service delivery	➢ Village agents ➢ Community agents	➢ Food & Friendship volunteers ➢ OPAL volunteers
Services provided	➢ Village agents and community agents attend Age Concern Hampshire events to provide information and advice. ➢ Offer a home visit service, which includes a consultation with the individual, aiming at finding ways to help the individual meet their needs and support themselves.	➢ Food & Friendship volunteers; provide a befriending and information weekly, fortnightly or monthly for individuals receiving meals on wheels. Visit individuals during mealtimes and providing company. ➢ OPAL volunteers; receive referrals from OPAL coordinators and conduct home visits and provide information on local services, events and groups to individuals in the community.

4.1.2 Training aims and objectives

The overall aim of the session was to provide staff and volunteers with the skills in identifying the potential signs of undernutrition, and how to provide support to people at risk. The session objectives were that by the end of the session, participants should be able to do the following:

- Explain why good nutrition is important for older people
- Identify causes of undernutrition, consequences of undernutrition, signs of undernutrition and simple ways of supporting people with undernutrition
- Identify questions for effective conversations
- Know the most appropriate healthcare professionals to signpost to
- Be familiar with undernutrition awareness materials
- Reflect on learning and create an action plan

4.1.3. Training content

Each training session was two hours in length, and was delivered by the Wessex AHSN Nutrition in Older People Programme dietitian using a combination of PowerPoint presentation, group work and discussion. Each session included a pre- and post-session quiz to determine undernutrition knowledge at the start and end of the session. In addition, a post-session evaluation carried out to obtain information on how the attendees rated the session. The topics covered in the session were based on the objectives as stated in section 4.1.2 above.

4.1.4 Training evaluation: improvement in knowledge and confidence

A quiz (consisting of between seven and eight questions) was completed by the respondents at the start of each training session, to gauge knowledge about undernutrition prior to the session. The pre- and post-session quizzes were amended after the first two training sessions as follows:

- To remove the question about macro- and micro-nutrients, as this seemed to confuse participants and was not deemed as relevant for the session. As such, the answers to this question from the first two sessions were not included in the analysis

[3] Till, B. (2016). Unpublished MSc dissertation, University of Southampton

- Addition of two confidence rating questions, asking participants to rate (on a scale of 0 to 10) how confident they felt a) talking to older people about undernutrition, and b) giving nutritional advice to people around undernutrition. These confidence questions were not used in the scoring of 'knowledge'

A total of 22 participants (65%) completed both a pre and a post-session knowledge quiz. Reasons why participants did not complete both included arriving late for the session and leaving early. There was no evaluation data available from the first session in Winchester (March 2016). Table 3 shows the pre and post-session knowledge levels for the three training sessions where data was available. Table 4 shows the perceived confidence levels from the data obtained in the second two training sessions.

The following points summarise the main findings around pre-training knowledge:

- Participants knew that overweight / obesity affected a high proportion of over 65s; with 27% estimating that 65% of over 65s were overweight / obese (which was the correct answer), and 45% estimating 35% or 45% of over 65s were overweight / obese.
- Most participants over-estimated the percentage of over 65s 'at risk' of undernutrition (which should be 10-15%), with only 2 participants giving the correct answer
- An open-ended question was asked about potential undernutrition signs, requesting participants provide three ways they may notice or identify undernutrition. Only three participants (14%) were able to provide three appropriate answers. 54% of participants were able to identify weight loss as a sign, and 23% identified being thin as a sign. Other perceived signs (not necessarily signs of malnutrition) included complexion, slow in thought and dry skin.
- An open-ended question was asked about non-medical causes of malnutrition that could be influenced or changed as part of their role (with social isolation being given as a example on the quiz). 13 participants (59%) were able to provide two causes; 18% were able to provide one cause, and suggested giving dietary advice and shopping help. 23% of participants could not provide any appropriate causes.
- An open-ended question was asked about things older people could do if concerned they were malnourished. 'Correct' answers would include responses such as eating little and often, having milky drinks, eating high-calorie snacks and food fortification. 18% of participants were able to provide two appropriate actions, 50% provided one appropriate action, and 32% were not able to provide any appropriate actions.

***Table 3**: Percentage of pre-course and post-course knowledge, along with % change in knowledge*

Training session	Pre-course knowledge (%)	Post-course knowledge (%)	% increase in knowledge
Winchester (8.6.16)	49% (range 33-67%)	80% (range 58-100%)	31%
Andover (11.7.16)	45% (range 8-67%)	87% (range 83-92%)	42%
Winchester (28.9.16)	45% (range 25-58%)	80% (range 67-92%)	35%
AVERAGE	**46%**	**82%**	**36%**

***Table 4**: Perceived confidence levels before vs after the training session (data from final two sessions)*

Training session	Pre-course confidence (/ 10)		Post-course confidence (/ 10)		% increase in confidence (average)
	Talking to people	Giving advice	Talking to people	Giving advice	
Andover (11.7.16)	3.8 (range 2-5)	3.4 (range 2-5)	7.6 (range 7-9)	7.8 (range 7-9)	47%
Winchester (28.9.16)	4.4 (range 1-8)	2.9 (range 1-6)	7.1 (range 5-9)	6.5 (range 3-8)	54%
AVERAGE	**4.1 / 10**	**3.2 / 10**	**7.4 / 10**	**7.2 / 10**	**51%**

4.1.5 Training evaluation: session evaluation

Participants were asked to complete an evaluation form to evaluate the session as a whole, and ask for specific feedback. No data was available from the first session (Basingstoke, March 2016). A total of 15 participants (Andover and Winchester, September 2016) completed the formal session evaluation form. Data on this evaluation is recorded in table 4 and chart 2. In addition to the questions shown on table 5 and chart 2, participants were asked to provide an overall rating for the training session. The options were 'excellent', 'good', 'average', 'poor' and 'very poor. Seven participants rated the training as 'excellent', and eight as 'good'. At the training session in Winchester (June 2016), this evaluation was not possible due to time constraints, so a score out of 10 was requested instead. Seven of the nine people present provided a rating at this session in June – an average rating of 9 / 10 was provided (range 8-10). This represents session evaluation data for a total of 74% of participants.

` ***Table 5:*** *Post course evaluation data*

Questions asked on Evaluation form	Number of participants providing each rating				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The training met my expectations	7	8			
I will be able to apply the knowledge / skills learned	2	13			
The trainer had clear objectives which were met during the session	4	11			
The content was organised & easy to follow	4	10	1		
The resources provided were useful	4	11			
The trainer was knowledgeable	7	8			
The quality of training was good	6	9			
The PowerPoint slides were easy to read & follow	4	9	1	1	
Group participation & interaction were encouraged	5	10			
Adequate time was provided for questions & discussion	5	10			

Chart 2: *Post course evaluation data – additional questions*

What did you like most about the training?

- "Training was interactive"
- "Calm and informative"
- "Gaining more knowledge"
- "Quiz / interaction"
- "Confident in broaching the subject"
- "The thoroughness of the instructor's knowledge"
- "Clear information"
- "Straightforward and factual"
- "Relaxed atmosphere"
- "Clear delivery"
- "Good resources"
- "Interaction within group"
- "The resources are very good, handouts and leaflets excellent. Great knowledgeable trainer"
- "Small groups"

What aspects of the training could be improved?

- "Lighting in the room too bright"
- "Lighting on the screen"

What Impact will this training have on work / role?

- "Be able to give advice on malnutrition"
- "More knowledgeable on subject"
- "Very useful"
- "Improved confidence in this area"
- "Increased confidence on the subject"
- "Ability to assess older person's well-being with more knowledge"
- "Greater confidence"
- "More comfortable in talking to older people about malnutrition and how to help them"
- "Confident to be aware"
- "More confidence in identifying / supporting"
- "Very useful at work and at home"
- "Definitely useful and I will be more aware of malnutrition"

Other comments?

- "A good training"
- "Thankyou"

4.2 Screening Results

4.2.1 Screening by volunteers

A total of 47 screenings were carried out. A total of 44 people were screened (two people were screened more than once; one screened twice and the other screened three times). Table 6 shows the setting for the screenings, number of people screened at each the different locations, and the role of the volunteer screening.

From reviewing the data collection forms and post-project surveys, a total of seven staff and volunteers carried out screenings:

- Six volunteers (three Food & Friendship (F&F) volunteers and three Village Agent volunteers) – of these five volunteers recorded their screenings on the data collection forms
- One member of Age Concern Hampshire staff who used the project data collection forms to record the screenings and subsequent actions taken.

Of the seven volunteers and staff who carried out the screenings, the three Village Agent volunteers and the F&F coordinator had attended a training session with the Wessex AHSN dietitian. The three F&F volunteers had received cascaded training from the F&F Coordinator (who attended the first training session in Basingstoke).

The screening the volunteers were asked to complete consisted of asking questions to determine unintentional weight loss, and using the PWA to determine if people were likely to have a body mass index of less than 20. Table 7 shows the results of the screening carried out. For the two people screened more than once, initial screening data is displayed.

Table 6: *Number of people screened at each setting, and by which volunteer role (data from the six volunteers/staff who completed the data collection forms)*

Screening setting		Number of people screened	Volunteer role
Home visits		5*	Food & Friendship
COPD clinic at GP practice		8	Village Agent
Events	Locks Heath Wellbeing Centre Open Day	2	Food & Friendship
	Basingstoke Information Day	13	Food & Friendship
	VA Owslebury Outreach Event	6	Village Agent
	Victoria Hall, Hartley Witney	6	Village Agent
	Rosefield Wellbeing Centre Open Day	4	Village Agent
	Total	44	

* repeat screenings were done as home visits (screening occurred at a total of eight home visits, but these represented five people)

Table 7: *Screening data for the 44 people screened*

	Number of people
PWA used	44 (100%)
Questions to determine unintentional weight loss used	28 (64%)
Underweight using the PWA	5 (11%)
Experienced unintentional weight loss	5 (11%)
Experienced unintentional weight loss and underweight using the PWA	2 (5%)

A total of eight people (18%) were either underweight using the PWA and/or had experienced unintentional weight loss. For the purposes of this report, these eight people are classified as 'at increased risk'. Two of these people (5% of the total) were both identified as underweight using the

PWA and had experienced recent unintentional weight loss (as shown in table 6 above). Table 8 shows the specific data for these eight people, showing any actions taken by volunteers to address this increased risk of undernutrition.

4.2.3 Information-giving, signposting and referrals by volunteers

The volunteers were supposed to be giving information to people who they found to be 'at risk' of undernutrition, as guided by the pathway and data collection form. Leaflets (either OPEN leaflets or Dairy Council resources) were provided to 42 people (95%).

Table 8: *Initial screening data and actions taken for people 'at increased risk'. Grey shaded areas show where no information was given*

Setting	Underweight using PWA? (Y/N)	Unintentional weight loss? (Y/N)	Leaflet provided? (Y/N)	Where signposted to	Where referred to	Other information given
Home visit	Y	Y	Y	Club/voluntary sector services		Weight monitored at 3 visits and increased from 7st 4 to 7st 8 in 6 weeks
Event	Y	Y	Y	GP / practice nurse		
Event	N	Y	Y			Lost weight but regained
Event	Y	N	Y			
Event	N	Y	Y			Being monitored by GP practice
Event	N	Y	Y			
Event	Y	?*	Y			Manager of the wellbeing centre (where event was held) is aware and monitoring
Event	Y	N	Y			Person reported to have always been slim and eats well

* Volunteer reported that the person had severe dementia so difficult to talk

4.2.4 Views from volunteers on the use of the PWA, questions and the process itself

Feedback was recorded on the data collection forms from three of the F&F volunteers and the F&F coordinator (one at an event and three doing home visits). Table 9 shows the feedback provided on the data collection forms. All four volunteers / staff found the PWAs and questions very easy to use.

Table 9: *Easy of use of the PWA and the questions as provided on the data collection forms*

Feedback	Number of volunteers / staff	
	Use of PWA	Use of questions
Very easy	3	3
Extremely easy	1	1

Informal interviews (which were transcribed) were held by an MSc Public Health student (from the University of Southampton) to form the student's dissertation[4]. This involved interviewing five volunteers and three project managers (employed by Age Concern Hampshire). Three interviews were held face-to-face, and the other five were held over the telephone. A summary of the findings from this report are as follows:

[4] Till, B. (2016). Unpublished MSc dissertation, University of Southampton

- The PWA was used as a tool to generate conversation, or as a prompt to have conversations around nutrition. Managers reported that the PWA was a simple tool for volunteers
- All volunteers were positive about the use of the PWA, and found it easy to use
- Misuse of the PWA was evident, with some volunteers using it over clothes
- All volunteers were extremely positive about the training provided by the Wessex AHSN
- Despite not asking the questions (to determine weight loss) in every person, all volunteers reported to see the need for using the PWA in combination with the questions
- Volunteers reported a positive reaction from older person themselves in all but one case
- It was suggested by managers that the lack of data included on the data collection may be due to a number of issues, such as volunteers not feeling that it's their role to fill in forms (burdensome procedures) and not seeing the importance of monitoring

4.3 Post-project surveys

Data collection was carried out between April and September. Post-project surveys consisting of nine questions were sent to Age Concern Hampshire in March 2017. The purpose of the surveys was to try and capture data not recorded on the data collection forms (to account for apparent gaps in the data collection forms, and in particular identify where volunteers were recording screening information and actions if not using the data collection forms), obtain information about the process of screening and advice-giving, and also to obtain some general feedback on the project itself.

Of the 20 paper copies of the survey sent to Age Concern Hampshire, seven surveys were returned; surveys were returned from three Village Agents, three F&F volunteers and one member of F&F staff. The following points summarise the results obtained from the surveys:

- When asked to place the following in order of perceived importance ('give advice'; 'use the armband'; 'ask questions about weight loss'; 'record what you did') 33% (n=2) said they thought the armbands were most important. 33% (n=2) said they thought asking the questions were most important. 83% (n=5) thought that recording what they did was least important. One respondent did not answer the question
- Four respondents (57%) reported that they didn't always ask questions about recent unplanned weight loss because they felt it was 'not important as they used the armband' (n=2) and 'too personal and felt awkward (n=2)
- When asked about the advice or signposting they provided:
    - 71% (n=5) provided a leaflet (OPEN or Dairy Council)
    - 71% (n=5) offered simple advice on improving nutrition
    - 29% (n=2) gave information about voluntary sector services / support
    - 29% (n=2) encouraged them to visit their Practice Nurse
- When asked about how they chose which clients to give leaflets to, 57% (n=4) reported to 'give them to everyone to make them aware of the issue of malnutrition'. One respondent reported to have not given out any leaflets
- The majority of respondents (86%, n=6) reported to have screened 0-10 people. The other respondent reported to have screened 10-20 people
- One respondent said they didn't complete the data collection forms because they didn't know about them
- When asked what other places they may have recorded screening / signposting information (other than the data collection forms), two respondents provided a response. One said they 'wrote it on usual notes or client record'; one said 'they weren't concerned about anybody' and added

    "everyone was made aware of help available – no formal screening was done, I just talked to those I have met about nutrition and its importance. I asked [name removed for confidentiality] from Hart District Council to speak about

nutrition at a Thrive meeting (Fire Service) and I spoke to them about good nutrition to prevent falls"

- Other feedback was provided by three respondents:
  - "The scheme should carry on – the armbands made things simple"
  - "The people I visit are all well supported by family and carers – weight loss is not an issue so armbands etc not needed"
  - "Good scheme. Needs to continue"

5.0 Discussion

All staff and volunteers trained found the training very useful, and that it opened up their eyes to the scale of the problem. The training was received extremely positively, both as outlined in the post session evaluation forms and in the interviews[5].

As mentioned in the results, eight 'older people' were at increased risk of malnutrition; having either experienced recent unexplained weight loss, or being underweight, or both. This translates to a percentage of 18% of older people screened being 'at medium or high risk' of malnutrition. However, there are two main reasons why the percentage may have been over or under estimated:

- Only 65% of people were asked if they had experienced recent unintentional weight loss. There's a chance that some of the 35% of people not questioned on weight loss were actually losing weight, making this percentage higher. This serves to further highlight the importance of asking the questions.
- Feedback from interviews[6] revealed that some volunteers were using the PWA over clothing, which would underestimate the number of people likely to be underweight.

This figure of 18% fits with the data found in published and quoted research, where 14% of older people living in their own homes were found to be 'at risk' (Elia & Stratton, 2005[7]). 'At risk' in this published research is defined as people with a medium or high risk of malnutrition using the Malnutrition Universal Screening Tool ('MUST')[8]. However, because questions were not asked about the actual amount of weight loss experienced in each, it is not possible to be sure that all those with recent unplanned weight loss had lost a clinically significant amount of weight (i.e. >5%). Therefore, scores using the 'MUST' screening tool have not been assigned, and the malnutrition risk figures obtained in this project are not fully comparable with the risk figures from Elia and Stratton (2005) or any other research that has used 'MUST' scores.

Results showed that 11 people (5%) were likely to be underweight with a BMI <20 (when using the PWA). This figure obtained is similar to the published and quoted research, which found that 5% of older people were underweight (Edington et al, 1996[9]).

In terms of the process, it appears that the student project and post-project survey results that volunteers placed more emphasis on using the PWAs than on asking the questions about weight loss despite the training they received. Results from the interviews revealed that the volunteers found the PWAs useful as a prompt to start a conversation about nutrition. The questions should be used in all people, and the PWAs should only be used in those who appeared underweight or to initiate a conversation. As a recommendation going forward, future paperwork should clearly state that the

[5] Till, B. (2016). Unpublished MSc dissertation, University of Southampton
[6] Till, B. (2016). Unpublished MSc dissertation, University of Southampton
[7] Elia M, Stratton R. (2005). Geographical inequalities in nutrient status and risk of malnutrition among English people aged 65y and older. Nutrition; 21:1100-1106
[8] 'MUST' is a screening tool which can identify malnutrition risk in adults. For more information see www.bapen.org.uk/screening-and-must/must-calculator
[9] Edington J, Kon, P, Martyn CN. (1996). Prevalence of malnutrition in patients in general practice. Clinical Nutrition; 15: 60-63

questions should be asked first (and even highlight more of a 'script' around exactly what they should asking), and if the person was losing weight, the PWA could then be used to identify those who were also likely to be underweight.

Results from the completed data collection forms showed that of the 24 volunteers (and staff) trained in the first three sessions (final session excluded as it was held in the final week of data collection), only six were involved in screening. However, it is likely that more volunteers actually carried out the screenings and perhaps didn't record these on the forms; interviews following the project were held with Age Concern Hampshire volunteers who had not completed the data collection forms, reporting that they had been involved with using the PWAs and questions[10]. However, it is difficult to draw conclusions around this because of the low number of volunteers who completed the post-project surveys (and of these, only one respondent had not used the data collection forms). There are several reasons why volunteers may not have recorded the nutritional screenings they carried out:

- Volunteers may not have felt it their role to complete paperwork (this was suggested in the volunteer interviews[11])
- Volunteers may not have had access to the forms for some reason
- They may have other recording systems where the screening results and actions may have been recorded (e.g. the client's notes)

In addition to the small numbers of staff and volunteers using the formal paperwork, there are likely to be several volunteers carrying out more informal use of the knowledge and skills obtained from the training session in terms of sharing general undernutrition awareness.

Table 8 shows that all but one of the people found to be at increased risk had been given some sort of information or signposting in addition to being provided with a leaflet about undernutrition. However, there were no referrals made by any of the volunteers, and there is a chance that people not at risk of undernutrition may still have benefitted from signposting. Questions have been included on a post-project survey in order to investigate whether signposting or referrals may have been made but just not recorded on the data collection forms.

All but three of the people screened (93%) were given a leaflet about undernutrition, including those not found to be at risk. There is a chance that the volunteers did not fully understand that these should only have been provided to people found to be at increased risk. The results of the post-project survey seemed to concur with this.

6.0 Key Recommendations

- ***Training*** – Providing training to voluntary sector staff improved their knowledge and confidence. Cascade training from co-ordinators and 'nutrition champions' may help with the sustainability of training going forward in a large organisation spread across a variety of geographical locations. In addition, the Wessex AHSN Nutrition in Older People Programme is planning to further develop their nutrition toolkit[12] to facilitate awareness-raising by voluntary sector organisations themselves, and is in the process of producing a training video that could be used by voluntary sector organisations.
- ***Recording of data and actions*** - Consider alternative methods of data collection and extrapolating data to help with the evaluation of any future projects, e.g. existing data collection processes that volunteers use (such as client notes, correspondence with co-ordinators). Similar projects should also consider making improvements to the process pathway and data collection sheet, to provide clearer prompts

[10] Till, B. (2016). Unpublished MSc dissertation, University of Southampton
[11] Till, B. (2016). Unpublished MSc dissertation, University of Southampton
[12] http://wessexahsn.org.uk/OPEN-toolkit

- ***Effective and appropriate signposting*** - A focus on providing good signposting for older people, particularly to services and sectors who run activities and groups to reduce loneliness in older people, which could then impact on improving their nutrition and quality of life. Recording processes for signposting and referrals to specialist services should be considered for future projects
- ***Investigate use of alternative tools*** – Whilst the volunteers found the PWA easy to use, it only measures if someone has a thin arm (and is therefore likely to be underweight with a BMI under 20) if used correctly. In order to pick up undernutrition risk, it should always be used in conjunction with appropriate structure questions. The PWA is also single-patient use only, and due to its costs, is not a viable option going forward in terms of sustainability. In view of this, the Wessex AHSN is looking at developing an interactive tool which can be used to identify if someone is likely to be at increased risk, along with providing some structure for which advice and signposting should be given depending on the person's specific situation. In addition, the Wessex AHSN have been involved with adapting the Nutrition Checklist originally designed by the Patient's Association[13], to make it more suited for use by volunteers and care workers in the community.

7.0 Appendices

Appendix 1: Copy of the flowchart and data collection sheet used in this project

Report written by Annemarie Aburrow, Dietitian for the Wessex AHSN
May 2017

[13] www.patients-association.org.uk/wp-content/uploads/2016/12/The-Patients-Association-Nutrition-Checklist.pdf

Appendix 1:

Improving Essential Nutrition using the PaperWeight Nutrition Armbands

1. IS THE PERSON UNDERWEIGHT?
Use the armband – if it slides easily up and down the upper arm, the person is probably underweight (BMI<20)

HOW TO USE THE ARMBANDS:

- Use the non-dominant arm
- Roll up sleeves to reveal bare arm. Never place over clothes
- Wrap armband around upper arm, sticking the end exactly to the red line

2. HAVE THEY LOST WEIGHT UNINTENTIONALLY IN THE LAST 6 MONTHS?
The following questions can be asked / considered to assess if they've lost weight:

- Have they experienced unplanned weight loss in the last 3-6 months?
- Do their clothes, shoes or rings look loose? (check for loose shirt collars, waistbands, shoes / slipper, rings. Do clothes look too big?)

3. IS THE PERSON AT RISK OF MALNUTRITION?
If 'yes' was answered to question 1 and/or 2, the person is at risk of malnutrition

YES

4. TAKE ACTION

- Provide leaflets and simple advice on improving nutrition
- Consider voluntary sector services / support, e.g. luncheon clubs, transport
- Encourage visit to Practice Nurse
- Seek further advice from your Coordinator

5. COMPLETE THE CHART OVERLEAF
To record how you've used the armband, and to record actions taken as a result of identifying people at risk

NO

4. OFFER INFORMATION ON HEALTHY EATING AND OTHER SUPPORT AS APPROPRIATE

- Offer information on healthy eating (e.g. signpost to information from Age UK, NHS Choices, British Heart Foundation)
- Provide information on appropriate voluntary services, e.g. community groups, luncheon clubs
- Please contact your project co-ordinator if you need more information about local services available

Name…… Role…… Date used ……

Name / initial	Armband used? Y / N	Under-weight using armband? Y / N	Questions on weight loss asked? Y / N	Lost weight in last 6 m? Y / N	Leaflet(s) provided?	Signposted / information given on…				Referred with consent to…				Practical / other support provided
						Lunch clubs & other voluntary services	Meals on wheels / Food & Friendship	GP / nurse	Other	Lunch clubs & other voluntary services	Meals on wheels / Food & Friendship	GP / nurse	Other	

FEEDBACK ON USE OF THE PAPERWEIGHT ARMBANDS:

Comments / feedback on how easy you found the armbands to use?

Comments / feedback on how useful and easy you found the questions / flowchart in helping identify weight loss in older people?