

Hydration at Home Toolkit: Evaluation Report

Written by Wessex AHSN Healthy Ageing Programme, June 2020

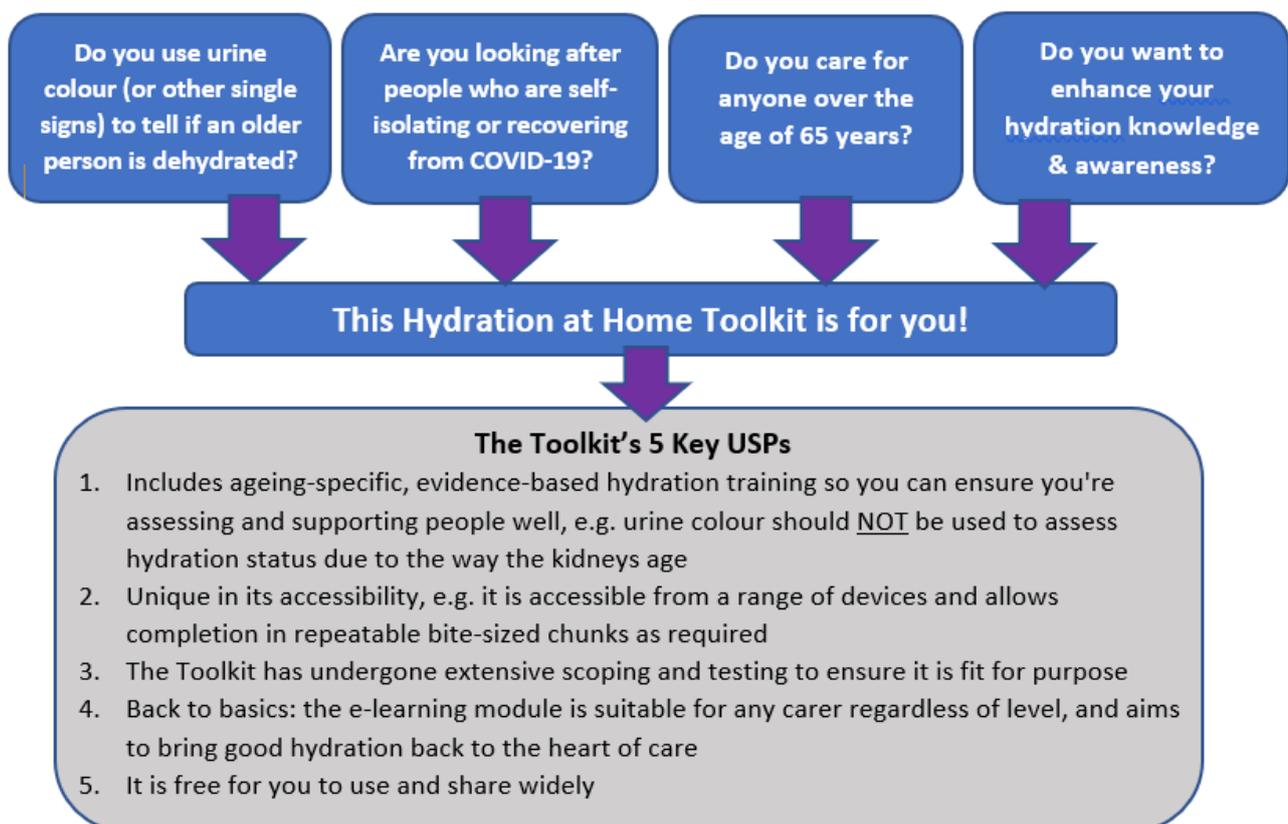
Executive summary

What is the Hydration at Home Toolkit?

The Hydration at Home Toolkit is a collection of free resources aimed at improving hydration in older people. It includes a hydration e-learning module (hosted by Health Education England) aimed at providing basic training to carers looking after older people in the community, links to recommended hydration resources, Grandad's Story film (showing how easily it is for someone to become dehydrated when a few things go wrong), and awareness-raising resources for the public.

Why should I use the Hydration at Home Toolkit?

Launched in June 2020, the Hydration at Home Toolkit is a result of co-production between Wessex AHSN, Hampshire County Council (HCC) and members from a Hydration Steering Group. We believe the Toolkit is suitable for anyone in a caring position. If you are a decision maker or in a position of influence (e.g. Commissioner or Council), please share this Toolkit with colleagues and partners, and recommend it to be used by provider organisations, care homes and care agencies. Take a look at the following flowchart to see if the Toolkit is for you and view its 'Unique Selling Points' (USPs):



What have people said about the Toolkit?

“As Chair of the National Hydration Network , I am delighted that this simple and much needed hydration resource will be available for all care staff to access. The fundamental messages reflect the latest evidence base, which will dispel myths and help carers to promote best practice in their daily work; thereby reducing risk of preventable dehydration within our vulnerable older population”

Naomi Campbell RGN, Independent Hydration Nurse Consultant and Chair of the National Hydration Network

“The hydration e-learning training really opened up our eyes to many different aspects of the importance of a good fluid intake, and allowed us to have a real focus on hydration, as opposed to always being centred around someone’s nutrition. This has positively impacted our residents”

Emma Smith, Deputy Manager, Seabourne House Care Home

“The training raised staff awareness about how gains to fluid intake can be made through diet – such as jellies, soups and ice lollies, as it is not unusual for residents to limit their drinking, but may enjoy these food items instead.”

Angela Stewart, Manager, Burwood Nursing Home

“It’s been really helpful in these uncertain times to see easily available, simple and practical guidance aimed at supporting older people to continue to meet their nutritional and hydration needs.”

Alison Smith, Registered Dietitian, NHS Herts Valley CCG and Chair of the Older People Specialist Group of the British Dietetic Association

Introduction and background

Keeping well hydrated is an essential part of healthy ageing. The incidence of dehydration in the UK in different care settings and among people living in their own homes is not known. Part of the challenge is that there is no recognised screening tool to detect dehydration and the method of diagnosing dehydration can differ amongst healthcare professionals. One study showed that 37% of acute admissions over the age of 65 were dehydrated on admission to hospital¹. Dehydration is also more common in people with cognitive impairment and changes to functional ability, including swallowing issues, dementia and those struggling to control their diabetes² (all of which are common among people living in care homes or receiving domiciliary care at home). Generally, all people over 65 should be considered at risk of dehydration due to the effect of age-related changes.

Between 2018 and 2020, Wessex AHSN carried out projects to evaluate approaches for improving hydration in care homes and domiciliary care in Hampshire³. Findings suggested that an e-learning toolkit (encompassing a training module) would be useful for care workers. Not only would this be an important outcome from these projects to help to build in sustainability in terms of knowledge and

¹ El-Sharkawy et al. (2015). Hydration and outcome in older patients admitted to hospital (The HOOP prospective cohort study). *Age and Ageing*, 44 (6): 942-947.

² The British Nutrition Foundation (<https://www.nutrition.org.uk/bnfevents/events/83-nutritionscience/life.html>)

³ <https://wessexahsn.org.uk/projects/204/hydration-at-home>

training, but it would open up the training to a wider audience of carers, including unpaid carers (e.g. volunteers and family carers within the home setting). It was also apparent that there was a need for quality, evidence-based resources around hydration that could raise awareness of good hydration among the general public. In response, the Hydration at Home Toolkit was developed, which includes a basic e-learning module specifically designed for community carers, Grandad's Story film (a case study animation showing how easily someone can become dehydrated, and simple steps to help the situation), links to recommended resources and further resources suitable for the general public.

The Toolkit was developed by Wessex AHSN in collaboration with HCC, and had input from a Hydration Steering Group. This Steering Group was set up to support and oversee the care home and domiciliary care projects, and included representatives from Wessex AHSN, HCC, West Hampshire Clinical Commissioning Group (CCG), Southern Health NHS Foundation Trust, and a domiciliary care agency.

The Toolkit was launched in June 2020 and is available to be used free of charge. Our hope is for carers across community settings to use it, to improve their knowledge and confidence in identifying those at risk of dehydration and helping to support older people to maximise their hydration. Our vision is that the e-learning module will impact on care settings by enabling carers to improve hydration in both the people they look after as well as themselves. We were very keen to carry out scoping and testing of any materials we produced to ensure they were fit for purpose. We believe that this detailed scoping and testing is a key part of what makes the Toolkit unique.

We have produced a PDF 'Guide' to using the Toolkit, which provides information on all parts of the Toolkit. It is available from <https://wessexahsn.org.uk/projects/354/hydration-at-home-toolkit> (visit the 'resources' section to view / download the document).

This report covers the scoping (determining the needs for the different elements of the Toolkit), development, (process and timelines involved), testing (to ensure the Toolkit was fit for purpose and identifying any issues that needed resolving), and lessons learnt (including what makes our training module different from other e-learning approaches).

Scoping

E-learning module

As part of our projects working with care homes and domiciliary care agencies, we provided face-to-face training to carers. Interestingly, whilst most carers said they already had extensive awareness of hydration at the start of the session, as the training progressed, it became apparent that their knowledge was relatively poor. For example, carers were not aware of the evidence-based messages about hydration in older people, such as that using urine colour and skin turgor / elasticity are not reliable ways of assessing hydration status in older people. It became clear that a training package was required which enabled carers to become skilled in how to assess and provide support for older people to promote good hydration.

It was important for the module to have clear learning objectives, which were continually reinforced through the training. The scoping also reinforced the need to cater for different learning styles to appeal to a wider audience, and include interactive elements to engage the user. We took time to work out what would help embed knowledge, e.g. visuals, quick quizzes and an assessment.

Review of available hydration e-learning courses

Initially, we looked into hydration training courses that were already available for carers in the community. We found that this was primarily in the form of the Care Certificate (Standard 8: Fluid and

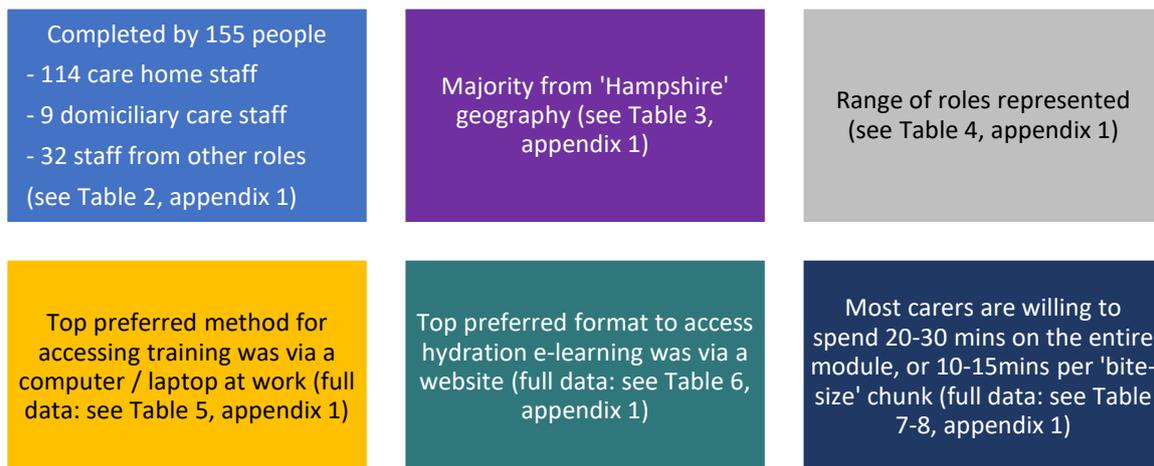
Nutrition)⁴. We asked our local care networks for the details of training suppliers they regularly use, and were given three (Health Education England’s electronic learning for health (e-lfh), Skills for Health and The Grey Matter Group). The hydration aspects of these three providers’ training courses were reviewed. The comparisons can be found in Table 1 appendix 1.

We found that whilst some basic elements of hydration were available as part of the Care Certificate, this training was more focussed on giving general advice across the lifespan, and didn’t include ageing-specific messages or strategies. In particular, none of the courses covered assessment methods, how to provide individualised support specific to older people, fluids in food, creativity around fluid choice / provision or monitoring.

Carer survey

A survey was created using Survey Monkey to obtain feedback about the development of a hydration e-learning module. This survey consisted of eight tick-box questions to explore preferred e-learning formats, access to equipment / facilities, and length of time willing to spend on the module. The survey was sent by email to care staff on the Healthy Ageing Programme contact list. Paper copies were also given to attendees at two events in March and April 2019. Key results / information received are shown in Figure 1.

Figure 1 – Summary of results and information received from the carer survey



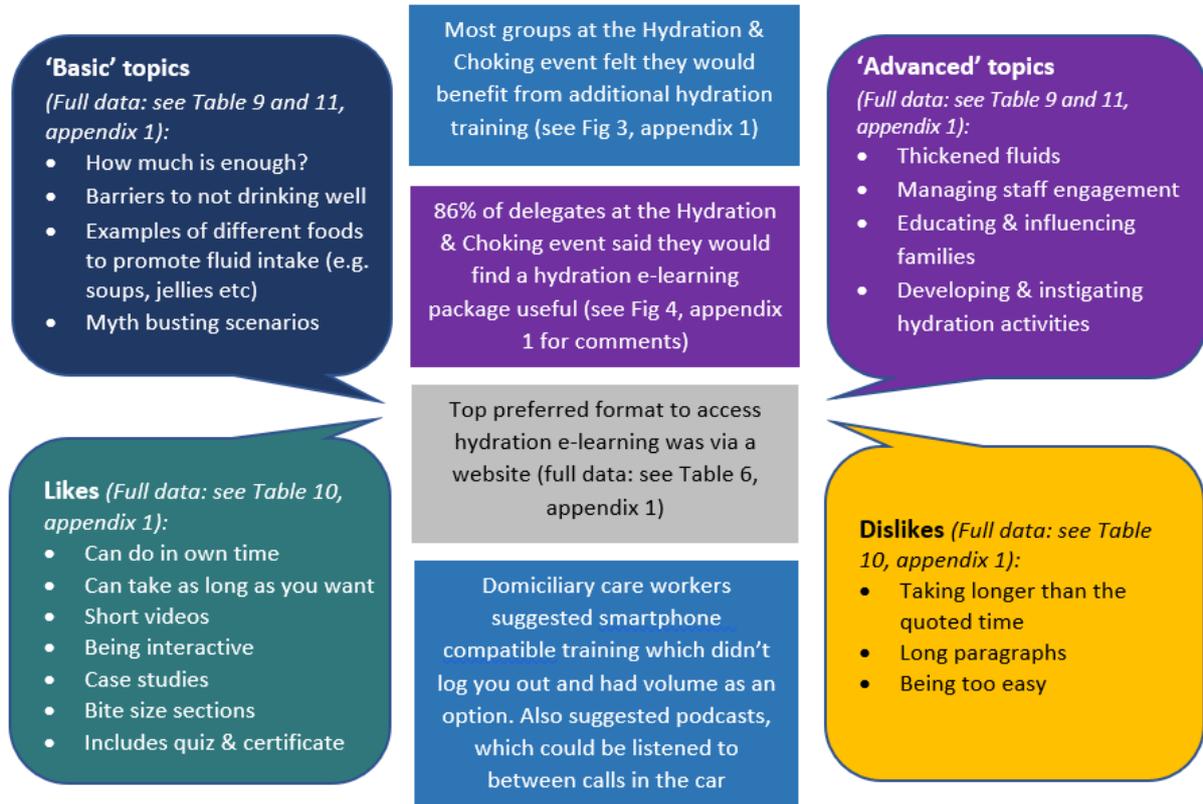
Carer consultation

Three workshops / events were attended to carry out consultation with carers – a Champion workshop in March 2019 (part of the Improving Hydration in Care Homes project, attended by around 40 care home workers), a Hydration and Choking event in April 2019 [run by HCC, with 118 attendees (a mix of care home staff and supporting staff, e.g. workforce development, speech and language therapy; representing 40 different care homes)] and a focus group for domiciliary care workers (attended by four care workers and the branch manager).

Attendees were asked about what topics should be *included* (note: at the time we were considering developing an ‘advanced’ module aimed at managers and ‘Champions’ in addition to the basic module for all carers. However, the ‘advanced’ module was not pursued due to time and resource constraints – see *Future Recommendations* section), whether an e-learning module would be useful, and what they liked and disliked about other e-learning they have done in the past. A summary of the key results is shown in Figure 2, page 5.

⁴ <https://www.skillsforcare.org.uk/Documents/Learning-and-development/Care-Certificate/Standard-8.pdf>

Figure 2 – Summary of results and information received from the carer consultation



Resources for the general public

- Existing advice and information sheets available to view or download online were reviewed
- It was apparent that there were many mixed messages around hydration in the public domain, and a lack of good quality, evidence-based resources available for the general public. An example of this was the number of resources (including those from NHS organisations) still recommending use of urine colour as an indicator of hydration status in older people
- The majority of resources were aimed at people with acute kidney injury and were therefore more acute-focussed rather than community-focussed.

Grandad's Story

- Feedback from the consultation phase suggested that videos would be a way of providing learning in an interactive way and cater for different learning styles (if a picture is worth a thousand words – how much more a video?!)
- We looked at various videos produced by other organisations, and found that the majority of these had a more 'acute' or 'hospital' feel, rather than focussing on someone living in their home environment
- Other videos tended to focus more heavily on the signs and symptoms of dehydration, something we wanted to steer away from in view of evidence suggesting that all older people are at increased risk of dehydration
- We also wanted to capture the personal touch to enable carers/family to easily relate to the story, materials and the messages conveyed. The story of 'Grandad' is therefore told through the perspective of his grand-daughter.

List of recommended resources

Feedback from the consultation with carers revealed that links to other resources / reading was important to them to support the reinforcement of learning and enable them to be able to check back in for more information. We therefore wanted to include links to recommended resources which mapped to each section of the e-learning module, but which could also be used as a stand-alone resource on the Wessex AHSN website and shared widely as a best practice tool.

Development

The elements of the Toolkit were then developed following scoping. A summary of the development process is provided in this section. Following initial / draft development, the materials were tested with real users, and further changes were made to the materials to ensure they were fit for purpose.

E-learning module

- It took 15 months to develop the e-learning (from scoping to publication)
- A significant amount of time was spent developing and testing, with many reviews of the content to ensure it was fit for purpose – examples of this included adding audio voice over to each section, changing the assessments to include a case study with scenarios for care home and domiciliary care settings (along with functionality for the user to review answers), and adding ‘hydration pledges’ at the end – a chance for carers to reflect on how they planned to change their practice. The addition of the ‘hydration pledge’ would also enable us to collect data on the impact of the learning following launch
- A list of activities and timeline can be seen in Fig 5, appendix 2.



Resources

- It took six months to develop the tri-fold hydration leaflet (from scoping to publication) – see Fig 6, appendix 2 for a timeline of activities
- Following this, the ‘top tips’ page was made into a stand-alone leaflet / poster, and an A4 version of the leaflet was produced in a larger font, to make it more suited to printing in black and white
- The resources were published in March 2020 and were shared widely with local and national Healthy Ageing team contacts. They were also shared widely on social media during ‘Nutrition and Hydration Week’
- All resources are available in PDF format from the ‘resources’ section at: <https://wessexahsn.org.uk/projects/354/hydration-at-home-toolkit>



Grandad's Story film

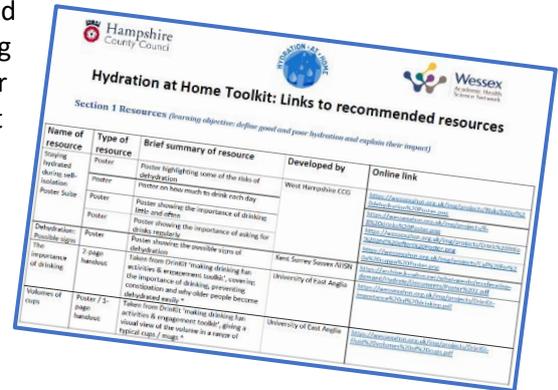
- We had the idea of producing a short film which told the story of how easy it is for an older person to become dehydrated, and how a carer can provide support to help improve the situation
- We wanted to build in some of the key messages around hydration (e.g. no one sign or symptom can be used to tell if an older person is dehydrated) and to have a video that could be used both as a stand-alone resource and also be incorporated into the e-learning module
- The process from scoping to publication took six months - see timeline and associated activities in Fig 6, appendix 2



- Grandad's Story can be viewed here: <https://wessexahsn.org.uk/videos/show/362> and a subtitled version, which is ideal for showing in GP practice waiting rooms, or for people with hearing loss, is available here: <https://wessexahsn.org.uk/videos/show/363>

List of recommended resources

- The Wessex AHSN Hydration Clinical Lead and a registered dietitian reviewed a range of hydration resources (including leaflets, posters, videos and toolkits) from other organisations. They were reviewed against the current evidence-base using literature such as the DRIE Study⁵ and the ESPEN guideline on clinical nutrition and hydration in geriatrics⁶
- Each resource was then mapped to each of the three sections of the e-learning module. A fourth section contains more comprehensive resources (such as other toolkits), aimed at managers and 'Hydration Champions'
- These four sections were made into separate PDFs which are linked to form the 'resources' section of the e-learning module
- The four sections were combined to make one PDF of recommended resources, which is available from: <https://wessexahsn.org.uk/projects/354/hydration-at-home-toolkit>



Hydration at Home Toolkit: Links to recommended resources

Section 1 Resources (learning objectives define good and poor hydration and explain their impact)

Name of resource	Type of resource	Brief summary of resource	Developed by	Online link
Hydration Being Well-looked After	Poster	Poster highlighting some of the risks of dehydration	West Hampshire CCG	https://www.westhampshireccg.nhs.uk/our-services/primary-care/geriatrics/geriatrics-leaflet/
Poster: Sober	Poster	Poster on how much to drink each day		https://www.westhampshireccg.nhs.uk/our-services/primary-care/geriatrics/geriatrics-leaflet/
Dehydration: Possible signs	Poster	Poster showing the importance of drinking little and often		https://www.westhampshireccg.nhs.uk/our-services/primary-care/geriatrics/geriatrics-leaflet/
Dehydration: The importance of drinking	Poster	Poster showing the importance of asking for drinks regularly		https://www.westhampshireccg.nhs.uk/our-services/primary-care/geriatrics/geriatrics-leaflet/
Volume of cups	Poster / 3-page handout	Poster showing the possible signs of dehydration	West Surrey Senior Citizens	https://www.westhampshireccg.nhs.uk/our-services/primary-care/geriatrics/geriatrics-leaflet/
	Poster / 3-page handout	Table from DRIE (making drinking fun) activities & engagement toolkit: covering the importance of drinking, preventing constipation and why older people become dehydrated easily	University of East Anglia	https://www.westhampshireccg.nhs.uk/our-services/primary-care/geriatrics/geriatrics-leaflet/
	Poster / 3-page handout	Table from DRIE (making drinking fun) activities & engagement toolkit, giving a visual view of the volume in a range of typical cups / mugs	University of East Anglia	https://www.westhampshireccg.nhs.uk/our-services/primary-care/geriatrics/geriatrics-leaflet/

Testing

This section covers how the testing of the Toolkit was undertaken. As the list of recommended resources forms part of the e-learning (in addition to being available as a stand-alone resource), this have been included within the 'E-learning module' section.

E-learning module

We took time to test the e-learning with real users, to make sure it was fit for practice. We also took time to develop a unique approach to the assessment at the end of the module as a result of user testing. Not only did we develop two versions of the assessment as a result of testing, but we built in a mechanism for the assessment to guide the user to review the correct answers at the end, to embed knowledge. The testing also indicating the need to add audio / voice over to the module to make it more accessible.

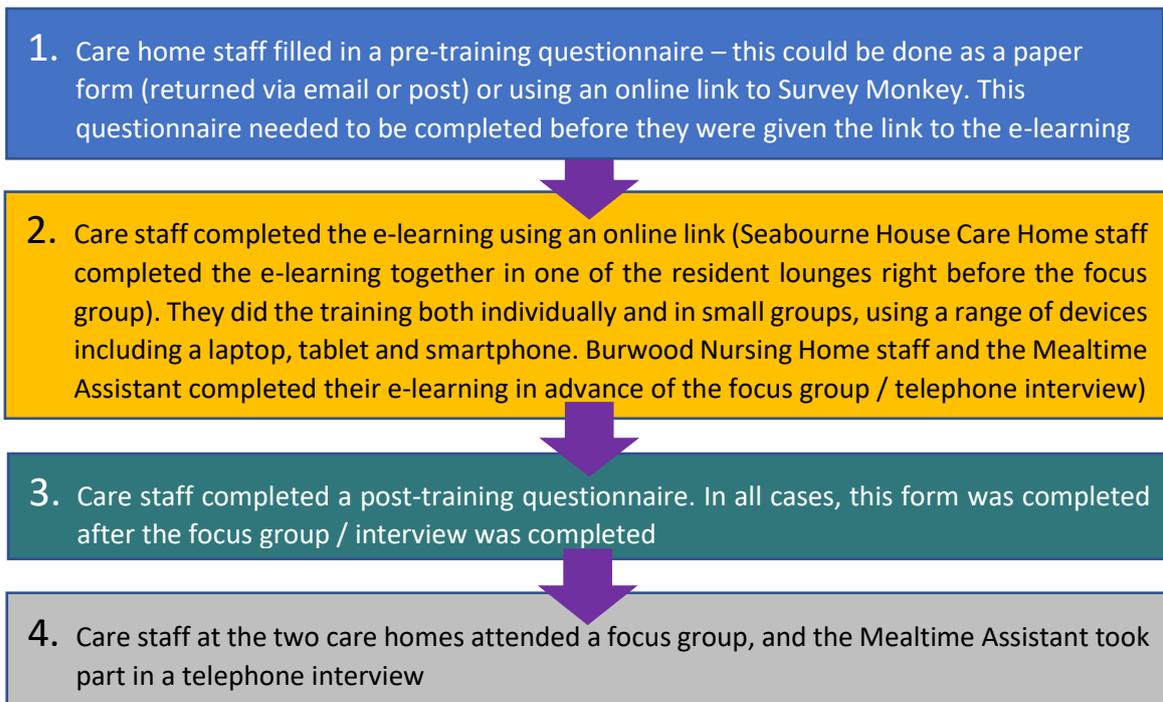
20 organisations were approached by email to ask if they could help with testing the e-learning module (six care homes, 11 domiciliary care agencies, two voluntary sector organisations and Southampton General Hospital Mealtime Assistant Volunteer Service). Of these:

- Six had worked with Wessex AHSN on previous projects
- Seven were organisations Wessex AHSN had had prior contact with, e.g. at events or meetings
- The remaining seven organisations were domiciliary care agencies in the Southampton area who had had no prior contact with Wessex AHSN.

⁵ Bunn & Hooper. (2019). Signs and symptoms of low-intake dehydration do not work in older care home residents – DRIE Diagnostic Accuracy Study. Journal of the American Directors Association. 20 (8): 983-970. doi: <https://doi.org/10.1016/j.jamda.2019.01.122>

⁶ Volkert et al. (2018). ESPEN guideline on clinical nutrition and hydration in geriatrics. Clinical Nutrition. Available from: https://www.espen.org/files/ESPEN-Guidelines/ESPEN_GL_Geriatrics_ClinNutr2018ip.pdf

Several organisations replied to say they would take part, but were unable to because of issues such as staffing, and the onset of the COVID-19 pandemic. A total of **12 care staff** in a range of roles from **three organisations** took part in the testing: Burwood Nursing Home (Dorset), Seabourne House Care Home (Dorset) and a Mealtime Assistant Volunteer from Southampton General Hospital (Table 12, appendix 3 shows the dates and numbers taking part from each organisation). Permission was sought to share the names of the organisations who helped with this testing. Testing was carried out using the following steps:



Comparison of pre- and post-training knowledge

- Participants were asked some simple questions to gauge their pre-training knowledge around hydration messages for older people (see Table 13, appendix 3). Average knowledge increased from 27% (range 22%-33%) to 86% (range 56%-100%) post-training, representing an average increase of 219%. This is higher than the increase in knowledge seen when providing face-to-face hydration training to domiciliary care agency workers (where we saw a 178% increase)
- Participants were also asked about how they identify dehydration. 83% of participants stated they used urine colour and 50% stated they used the ‘pinch test’ to identify dehydration on the pre-training questionnaire, whereas no participants stated either of these methods on the post-training questionnaire (see Table 14, appendix 3).

Comparison of pre- and post-training confidence

Participants were asked to rate their level of agreement for eight statements. These statements along with how confidence levels were rated are presented in Table 15, appendix 3. Perceived overall confidence was measured as a percentage of how confident participants felt across all statements.

- Average overall perceived confidence increased from 73% (range: 30-100%) pre-training to 89% (range: 68-100%) post-training
- Pre-training, 68% of participants rated their confidence (overall across the 8 statements) as 7/10 or more. Post-training, this had increased to 94% of participants
- The greatest improvement in confidence was seen in the statement ‘I feel confident and knowledgeable to talk to other carers in my organisation about hydration’ followed by ‘I feel confident and knowledgeable to advise my clients on how to improve their hydration’.

Other feedback from post-training questionnaires



7 carers completed the e-learning at work
5 carers completed it at home



The majority accessed the e-learning using a computer or laptop. (see Figure 8, appendix 3 for full data)



All carers completed the e-learning in one go (rather than dipping in and out)

Feedback from focus groups / telephone interview

A focus group question guide was produced by the Wessex AHSN team. Two focus groups (with Burwood Nursing home and Seabourne House Care home) and one telephone interview (with the Mealtime Assistant) were carried out using this guide. These were recorded and key themes and quotes were extracted, as seen in Table 16 below.

Table 16 – Themes and quotes from the focus groups and telephone interview

	Burwood Nursing Home	Seabourne House	Mealtime Assistant
What went well?	<ul style="list-style-type: none"> • Easy to navigate and follow • Good balance of visuals and words, bright and colourful • Staff valued being involved in the testing of the materials and being asked for feedback • Clear messaging that the learning can be completed in chunks 	<ul style="list-style-type: none"> • Language and pitch easy to follow (including when English was a second language) • Cartoon images worked well • Quiz was engaging • All information was good and encouraged engagement • Information was very relevant to everyday role for carers and also for managers 	<p>“Presentation of content engaging, right balance of text and pictures, not boring, the imagery helped me greatly”</p>
Impact & how practice may change	<ul style="list-style-type: none"> • Main areas of learning: 1) Fluid content of foods and 2) Cups and associated fluid quantities • Other key learning included how to recognise dehydration and myth busting • Add into induction training for all staff and consider as annual refresher 	<ul style="list-style-type: none"> • “Hydration needs should be added to care plans alongside ‘MUST’” • “Opened my eyes to look at residents differently” • “We will discuss using it across five other care homes within the group” • “Will no longer use urine colour as the only indicator of dehydration” • “I would go back to this as an annual refresher – things change, we forget and need to keep updated” 	<ul style="list-style-type: none"> • “I gained new knowledge about how to help people living with dementia, e.g. the colour of a cup can be important” • I now phrase things differently, e.g. ‘this is fresh water’, ‘look at this beautiful food’” • “Certain parts have stuck in my head and I am able to apply them, e.g. older people don’t experience thirst the same way” • “I feel more comfortable, confident & knowledgeable” • “I now ask the nursing staff if I can get a yoghurt, or extra custard, as I now understand this all counts as extra fluid”

Improvements required*	Include different questions for care homes in the quiz, adapting case study question dependent on audience	<ul style="list-style-type: none"> Sometimes skipped over text when reading – having subtitles and voice over would mitigate this More activity in section 2 	Several IT functionality issues
Other comments	<ul style="list-style-type: none"> No one accessed the resources tab, but they would find this useful as a reference Consider advanced version for managers and champions 	<ul style="list-style-type: none"> “Would recommend 100%” Took longer than 40 mins when working in pairs As the training is short, it wasn’t necessary to do it in chunks Have an advanced module to help champions teach and lead others Completing in pairs and discussing info worked well 	<ul style="list-style-type: none"> “I would recommend to others as a very useful way to learn” “I will go back to the resource and use it again in the future” Took longer than 40 mins to grasp content. There were some technical issues causing frustration and time wasting

* This table includes a flavour of the improvements required. See Table 17, appendix 3 for a full list of improvements required, along with what was done to rectify these.

Resources for the general public

The 'Staying hydrated as we get older: advice and guidance for people over 65, their family, friends and carers' tri-fold leaflet was **tested with 40 older people** at the locations shown in Table 18 below:

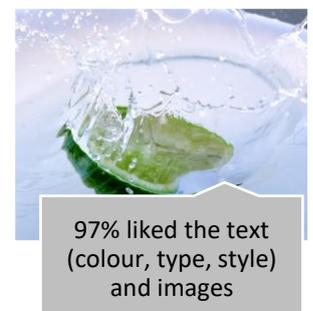
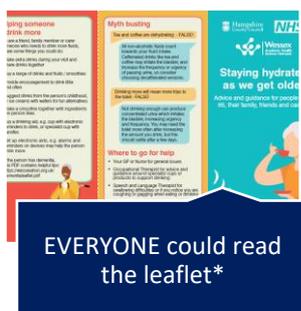
Table 18 – Location of groups attended and numbers of people attending

Location	Number of older people
Winchester lunch club (run by MHA Live at Home Scheme)	28
Southampton General Hospital inpatients (attending the Medicine for Older People Hub)	6
Southampton Sight activity group	6*

* n=3 were visually impaired group members, n=2 were volunteers, and n=1 was the husband of a group member

The people were given time to read the leaflet and were then asked to complete a paper feedback form, with 13 questions (mainly ‘yes’ or ‘no’ responses). The questions aimed to collect data about whether they could read it, understand it, and their thoughts about the design.

Leaflet feedback: readability, understanding, usefulness and design



* except one who reported they were unable to read even larger text, saying she found all text blurry

Leaflet feedback: quotes and comments

Quotes from older people about the design:

- “Could be a bigger font for those who have eyesight difficulties”
- “Glad the writing is black”
- “The text is very readable”
- “More primary colours to ‘draw attention and make inviting’”
- “Lighter background in myth busting section”
- “Lovely colours”

Quotes from older people about the improvements and things missed out:

- “A lot to take in. Could be simplified a little”
- “A simple diagram of how many mls there are in various cups, mugs etc”
- “Carry bottle of water if travelling”
- “Keep some rehydration tablets with you”
- “Better colour and rework the figure - thick arms and odd hairstyle”

Other comments from older people

- “Very good to see that all liquids count”
- “A very good, well thought out leaflet, really helpful and informative”
- “I think it is generalising too much”
- “Trouble is: more drinking means more visits to the toilet. This is not always possible, when out of the home”
- “Especially liked the tips”

Other comments from the Operations Manager of Southampton Sight, about how to make the leaflet more suitable for the visually impaired:

- “There’s a lot of great information in the leaflet, but suggested having the ‘tips for you’ as a standalone hand-out / poster, where the font was a larger print
- Text too small – ideally to have a larger font size
- Avoid use of red text, e.g. in the headings – black text would be better

Grandad’s Story film

Once it was finalised, Grandad’s Story was added into Section 2 of the e-learning module, although the video was not ready in time for the testing of the e-learning with the two care homes and mealtime assistant. However, we still wanted to test the video, to ensure it was effective and useful. In view of this, we asked the same two care homes and mealtime assistant to provide some feedback / comments by email. We also approached some domiciliary care agencies by email, and approached some family carers and members of the public (over 65) through social media.

In total, formal comments were received from five people (n=1 from care home, n=2 from domiciliary care, and n=2 from older people themselves). No feedback was received from family carers. Table 19 on page 12 shows the feedback / quotes received. In addition, the video was shared on social media during Nutrition and Hydration week (March 2020) with positive responses and shares. All of these were extremely positive and suggested that the video is useful and effective.

Table 19 – What people have said about Grandad’s Story

Group	Quote / comment
Care home	“Many thanks for sending me the video which I thought was very personal and memorable, which is key to helping people remember important points from their training” (<i>Manager, Burwood Nursing Home</i>)
Domiciliary care	“Thank you so much for the video it looks fab, great job and well put together” (<i>Manager, Mindful Care and Support, Hampshire</i>) “Looks great I think it explains it well” (<i>Carer, Apex Prime Care, Hampshire</i>)
Family carer	
Older person	“Good video. Very watchable” “That was brilliant”

Lessons learnt

Creating the Hydration at Home Toolkit from scoping to completion has given the team unique insights into what is involved in the process. From this, we wanted to draw out some key lessons learnt / ingredients for success, to provide you with information should you wish to implement a similar project in the future – see Table 20 below.

Table 20 – Lessons learnt

Lessons learnt / ingredients for success	More information
Co-production	Working closely with other local organisation to produce the resources helps not only to share the load and expertise, but to share ownership and networks for communicating the finished product
Don’t assume knowledge	Our work has shown us that the basic level of awareness around hydration in the community is relatively poor, despite carers initially telling us that they already knew all about hydration and how to promote good practice around hydration. Taking the opportunity to promote training (whether that’s face-to-face, train-the-trainer or using our e-learning module) will help spread the important messages and myth busting around hydration specific to older people
Carry out scoping	Investing the time to talk to potential users of your product / resource will ensure you develop something that is fit for purpose and that users will want to use
Test your resources	Investing the time to test your resources with the intended users will pay dividends and help ensure your final product / resource is effective. It may also highlight issues you didn’t realise you had
It takes time	It takes a long time to develop resources from scoping through to publication. It took one year from initially sitting round the room deciding on aims and learning outcomes for the e-learning module to having the finished product. The concept was something we had been considering for some time before this

Conclusions and next steps

The significant scoping and testing that we have carried out in order to produce the Hydration at Home Toolkit enables us to be confident that we have a tried and tested product that is fit for purpose. In particular, carrying out the testing of the e-learning module and the hydration leaflet enabled us to respond to concerns and suggestions of future users of these resources to make the necessary improvements.

Feedback from other groups who have developed e-learning courses suggests that the scoping and testing work is rarely done to the extent that we have achieved. Feedback from Hampshire and Isle of Wight Sustainability and Transformation Partnership was extremely positive and they were impressed with the level of scoping and testing that had gone into producing the Toolkit.

Our vision is for this free-of-charge Toolkit to be used and shared widely. In view of this, the e-learning module will be hosted by Health Education England's e-lfh portal going forward (and on HCC's learning portal for HCC care organisations). The other elements of the Toolkit will be hosted on Wessex AHSN's website.

We would be very keen to hear your experiences on how you are using the Toolkit and any case studies or positive stories. Please feel free to email us at healthyageing@wessexahsn.net.

Next steps

- Implementation of a communication plan – communication of the Hydration at Home Toolkit widely via email and a social media campaign. We hope to get some social media traction in the form of a 'movement'. To facilitate this, we have also developed a promotional video to showcase the Toolkit, available from: <https://wessexahsn.org.uk/videos/show/370>
- Carry out some research into the impact of the Toolkit (particularly the e-learning module) on staff and organisations. We are hoping to work with students from the University of Southampton MSc Public Health course who are looking for projects for their dissertation
- Collect and analyse data on the 'hydration pledges' that carers are asked to complete following completion of the e-learning module assessment – we then hope to use these to showcase best practice examples on our website, and create additional resources as needed
- Seek endorsement from organisations such as the British Dietetic Association and National Hydration Network (we did contact the Care Quality Commission (CQC) to enquire about endorsement but were informed they do not endorse any products or resources)
- Consideration around the best organisation to link in with in terms of maintaining the materials and content, e.g. if evidence changes (in particular in relation to the e-learning module).

Future recommendations

- Work with Health Education England to analyse some of the demographic data on who is using the module
- Explore the option of developing an e-learning module more suited to managers and 'Hydration Champions' to give them additional skills in hydration management
- Explore the option of different training platforms, such as app-based learning and podcasts

Concluding statement

We hope the Hydration at Home Toolkit will make a significant national contribution to overcoming the challenge of poor hydration and dehydration among older people and thereby contribute to their ongoing health and wellbeing, in addition to reducing the impact of dehydration on health and social care.

Contributors

Our thanks go to the Hydration Steering group along with the organisations who have helped test the Toolkit. The following people, listed alphabetically, were significant contributors to the scoping, development and testing of the Toolkit:

- Annemarie Aburrow, Consultant Dietitian for Wessex AHSN
- Cheryl Davies, Healthy Ageing Programme Manager, Wessex AHSN
- Kathleen McCulloch, Senior Communications Officer, Wessex AHSN
- Marie Sunderland, Workforce Development Officer, Hampshire County Council
- Maria Hayward, Strategic Workforce Development Manager, Hampshire County Council
- Dr Sarah O'Callaghan, Hydration Clinical Lead for Wessex AHSN
- Sue Bett, Assistant Workforce Development Officer, Hampshire County Council

Appendix 1: Scoping

Table 1 - Comparison of three providers of the Care Certificate section 8 (Nutrition and hydration) in terms of their hydration training provision

	HEE e-lfh	Skills for Health	The Grey Matter Group
What it covers	Very general – more focus on food safety / hazards, nutrients (e.g. carbs, protein, fibre, vits, minerals)	Very general – covers aspects of care for everyone including children, and older people	More public health focussed rather than how to tailor messages to people in care settings, e.g. in the section ‘how to promote adequate nutrition and hydration’, it discusses balanced diet, obesity, avoiding sweetened drinks due to extra calories we don’t need
Ageing-specific messages	None	None	None
Positive aspects	Briefly covered use of technology cups with reminders	Briefly covers end of life care, swallowing, culture, religion. Includes further reading (BAPEN, NICE)	Visually appealing and more engaging with lots of brightly coloured pictures and larger text
Negative aspects	States signs of dehydration as increased thirst & dark urine. More acute focussed, e.g. ‘patient’s exact requirements will be in their care plan’	Talks about early signs of dehydration as increased thirst and dark urine – no mention of reduced sense of thirst as we age	Content less robust with some less relevant parts (e.g. riboflavin will make your urine bright yellow) Uses complex language, e.g. urination, respiration, sedentary, diuretics

Table 2 – Place of work for care home staff and those supporting care homes; ‘other’ responses are highlighted in light blue. The survey was completed by a total of **155 people** (n=28 completed paper copies at the Champion workshop; n=118 completed paper copies at the Hydration and Choking event; n=9 completed the survey online). N=9 responses were received from staff working in or with domiciliary care agencies, 114 responses were from staff working in care homes, and the remaining 32 respondents worked in other places (e.g. day services, respite and safeguarding teams)

Workplace	Number of respondents
Care home – residential	49
Care home – nursing	42
Care home – residential and nursing	23
Day services	13
Respite services	3
Safeguarding team	2
Workforce development	2
NHS	2
Other*	6

* In addition, there was one respondent from each of the following: CCG; Continuing healthcare; between health & social care; community speech & language therapy; quality team; care and nursing catering teams support

Table 3 – geographical area of respondents

	Care home respondents	Domiciliary care respondents
Southampton City	19	2
Portsmouth City	8	2
Hampshire	116	5

Table 4 – role of respondents; ‘other’ responses are highlighted in light blue

Role	Care home respondents	Domiciliary care respondents
Carer	20	2
Healthcare assistant	2	-
Nurse	21	-
Manager (including assistant & deputy)	63	3
Team lead	11	1
Catering / kitchen	3	-
Nutritionist	5	-
Activity coordinator	2	-
Assistant practitioner	6	-
Safeguarding team	2	-
Workforce development officer	2	-
Hostess	1	-
Dining room supervisor	1	-
Trainee care practitioner	1	-
Training coordinator	1	-
Frailty team	1	-
Area support	1	-
Speech & language therapist	1	-

Table 5 – Equipment / facilities available

Equipment / facilities available	Care home respondents	Domiciliary care respondents
Smartphone	82 (56%)	8 (89%)
Tablet	54 (40%)	3 (33%)
Face-to-face training - in-house	92 (63%)	7 (78%)
Face-to-face training – from an external trainer	66 (45%)	5 (56%)
Computer / laptop – at work	111 (76%)	8 (89%)
Computer / laptop – at home	73 (50%)	6 (67%)
None of the above	1	-

Table 6 – Hydration e-learning preferred format

Preferred e-learning format	Care home respondents	Domiciliary care respondents
Smartphone app	63 (43%)	7 (78%)
Website (accessed via laptop / computer)	117 (80%)	8 (89%)
Website (accessed via tablet)	33 (23%)	4 (44%)
Podcast	8 (5%)	5 (56%)
Other	2	-

Table 7 – Length of time would spend on entire hydration e-learning training

Time	Care home respondents	Domiciliary care respondents
Less than 10 mins	6	-
10-20 mins	38	1
20-30 mins	60	5
30-45 mins	21	1
45-60 mins	17	2
Other	-	-

Table 8 – Length of time would spend on a ‘bite-sized’ chunk / section

Time	Care home respondents	Domiciliary care respondents
Less than 2 mins	2	-
2-5 mins	17	3
5-7 mins	25	2
7-10 mins	38	3
10-15 mins	53	1
Other	4	-

Table 9 – Consultation feedback from care homes on topics which should feature in basic vs advanced e-learning / training

Basic hydration e-learning topics	Advanced hydration e-learning topics
Signs of dehydration	Hydration as a natural part of holistic care
Knowing the importance of hydration	Barriers to not drinking well
Provide a variety of ways to increase fluid intake	Care planning
Who is most at risk?	Signs of dehydration
How much is enough?	Examples of possible activities
How to encourage residents to drink	Thickened fluids and diets
Barriers to not drinking well	Managing staff engagement
If the resident is not drinking the recommended level what does the carer do?	How to educate and influence families in the importance of hydration
Myth busting scenarios, e.g. frequency of loo visits	Making own case studies for actual residents to compare
Link to ROC tool ⁷ training	Link to CQC requirements
Care planning	Developing and instigating hydration activities
How to empower residents to offer family members drinks	IDDSI descriptors
Basic skills in preparing drinks	How to engage colleagues, families, volunteers
Knowing residents’ preferences	
Importance of documenting drinks intake	
Involving family in improving hydration	
Examples of different choices and promoting the offering of them (to also include soups, jellies etc)	
Knowing which type of cup residents like	
Benefits to residents – positive/negative	

⁷ Reliance on Carer (ROC) hydration care assessment tool: www.hydrationscareconsultancy.co.uk

Basic stats	
Everyone's responsibility; business as usual	
Importance on hydration in the home's ethos	
Make it fun and keep it simple	
Quiz and certificate at the end	
Examples of possible activities	

Figure 3 – current knowledge around hydration in older people, and whether they think a hydration e-learning package would be useful

Q: What is your current knowledge around hydration in older people; do you think you would benefit from further training around hydration?

- "As we are already part of the project, we have had adequate training and believe we have enough knowledge"
- "New staff would benefit, and it would be good for day services who aren't CQC registered"
- "Some knowledge – variety of drinks. Good to be updated about best practice"
- "No-one ever has enough knowledge. Training should be ongoing"
- "Current knowledge is good, as it's something that changes regularly and training is necessary. Possibly forums for staff / managers to meet and exchange ideas"
- "Any hydration training is beneficial"
- "Training is ongoing and welcome. Implementation and resources is an issue"
- "We all agree the everyone benefits from further training – we can always learn and improve"
- "Our teams would benefit from continued, valid, evidence-based training around hydration"
- "Mixed levels of knowledge; yes, further training for some"
- "Hydration is integral to basic care; extensive benefits in wellbeing for residents"
- "Good knowledge about hydration. More resources required on how to share the knowledge"
- "More training is needed to increased awareness of the importance of keeping hydrated and to improve understanding of indicators of dehydration"
- "Half of the group would benefit from further training (day services). The other half feel confident and competent and have received plenty of training"
- "We attended the hydration workshops as champions and we understand the ROC tool and how it highlights how much encouragement and assistance residents need"

Figure 4 – perceptions on whether an e-learning package would be useful

Q: Do you think an e-learning package around hydration would be useful to you?

- "Should be part of induction and next steps"
- "There is already too much e-learning. Not effective putting into practice"
- "100% think it would be useful but would prefer face to face interactive training"
- "We already have access to a number of e-learning packages"
- "Coloured and easy to read booklets to also share a simple message. Some learning styles may prefer a tablet or podcast. Networking for the champions – visit different homes"
- "Yes, especially if on smartphone"
- "E-learning is the simplest form to cascade and is achievable"
- "Some of the group felt they didn't learn from e-learning or retain information like you do with face-to-face training where you can ask the trainer questions. Not everyone's learning style"

Table 10 – key things they like / dislike about other e-learning packages (in response to the Question: If you currently do e-learning or have done e-learning on other topics, what key things do you like / dislike in an e-learning package?)

Likes	Dislikes
No sending staff away	Takes longer than the time they quote
Greater take up	Just asking questions
Keep going back to it	Doesn't suit all learning styles
Can do in own time	Prefer bite sized sections
Simplistic – short and snappy	Lack of face-to-face engagement
Focus on 'rationale' behind it	Unable to exchange of ideas and questions
Ability to go back and get your information / question answered	No evidence that e-learning has worked – how is the e-learning measured after completion?
Can take as long as you want	Not all videos are realistic
Needs to have pass / fail – with results going directly to management	E-learning is normally too easy – don't use multiple choice
Short videos / links to videos	Too much reading – long paragraphs
Needs to be interactive	
Include visual aids, e.g. pictures and pop-ups	
Case studies	
Link to NVQs/care certificate	
Multiple choice questions	
Cater for different learning styles	
Option to listen instead of reading	
Links to framework / guidelines	
Practical solutions	
System to support reflective practice	
Having a printable certificate at the end	
Simple questions	
Quiz at end to gauge knowledge	

Additional comments received:

- “Constraints with equipment - one available computer in the unit for a large number of staff. Staff ability to use IT and dislike using IT”
- “Not all staff get allocated time or have access to computer. Can eat into private time if it has to be completed at home”

Table 11 – topics which should feature in basic vs advanced training (in response to the Question: What topics do you think should be included in e-learning for basic vs advanced hydration training?)

Basic training topics	Advanced training topics
Clear message that everyone is responsible	How to encourage / motivate
Residents benefits, choices, creative drinks	Research / literature behind it all
Being aware of 'food liquids'	How to get buy in from other staff
Fluid types and what counts	Resources available
Top tips to support hydration	Training and updates
A pledge to do 1-2 things to improve hydration	Section to print and give to relatives
Fluid requirements	Ways to monitor hydration
Importance and risks	? medical devices to monitor hydration

Fundamentals of dehydration and impact on wellbeing	Supervision of other staff and supporting other staff with their knowledge
Recording fluid intake / documentation	UTI management
Communication	Sub-cut fluids
Care planning	Swallowing, choking, thickeners
How to make drinks 'attractive'	Strategies for those on thickeners
Regular drinking – all sips count	Hydration for those on PEG
Cups / vessels and jugs (no heavy jugs)	Diuretics
Ideas to promote hydration	Fruit juice and medicine interactions
Awareness – What is dehydration? Signs and symptoms	Specific nutritional info, e.g. which foods for smoothies to benefit dementia patients etc
Health benefits for staff and service users	Auditing and monitoring
Decreased thirst mechanism with ageing	Assessing competency
Leaving drinks within reach	Expectations of staff
	Clinical signs and symptoms

Additional comments received:

- “We feel the level of training should be the same for all, as it’s important”
- “There should be the same level of training regardless of job title / role”

Appendix 2: Development

Figure 5 – Activities and timeline for the development of the e-learning module



Figure 6 – Activities and timeline for the development of public health resources

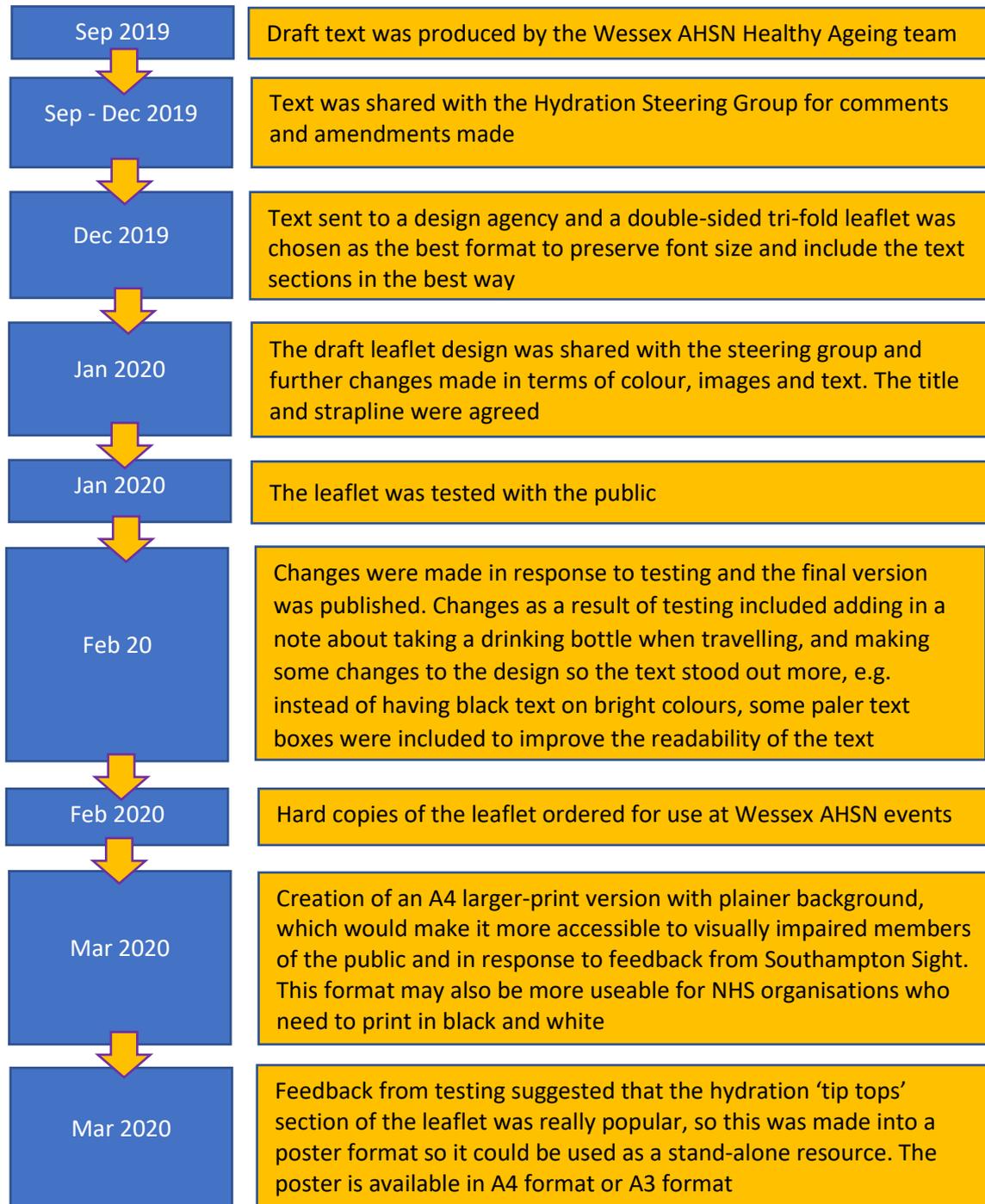
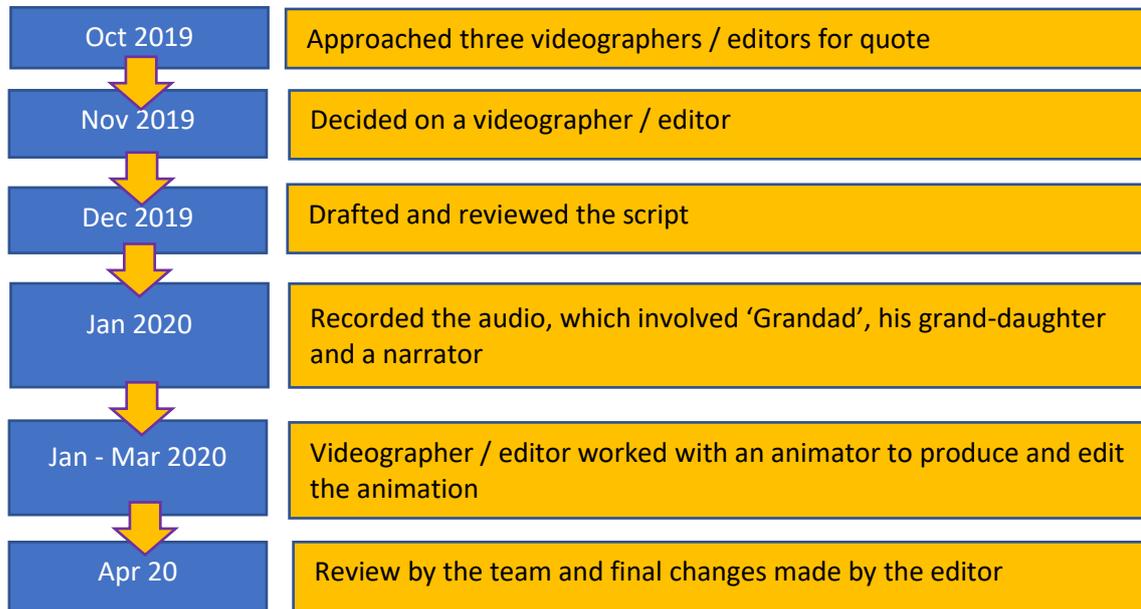


Figure 7 – Activities and timeline for the development of Grandad’s Story



Appendix 3: Testing

Table 12 – Organisations taking part, along with relevant dates and numbers

	Burwood Nursing Home	Seabourne House Care Home	Mealtime Assistant service
Number of people who took part in testing	5*	6**	1
Date of completion of pre-testing questionnaire	21 st January 2020	8 th January 2020	31 st January 2020
Completion of e-learning	3-4 th February 2020	10 th February 2020	8 th February 2020
Focus group / interview and date	5 th February 2020 (additional 3 staff attended the focus group but didn't complete a post-training questionnaire)	10 th February 2020 (focus group)	11 th February 2020 (telephone interview)
Date of completion of post-testing questionnaire	5 th February 2020	10 th February 2020	8 th March 2020

Table 13 - Pre- vs post-training knowledge for questions 1-3

	Burwood Nursing Home (n=5)		Seabourne House Care Home (n=6)		Mealtime Assistant (n=1)	
	Before	After	Before	After	Before	After
Participants getting the question correct on amount of fluid required each day	n=2 (40%)	n=5 (100%)	n=2 (33%)	n=4 (67%)	n=0	n=1
Participants getting the question correct on thirst as an indicator	n=1 (20%)	n=4 (80%)	n=0 (0%)	n=3 (50%)	n=1	n=1
Participants getting the question correct on whether water is more hydrating than tea	n=1 (20%)	n=5 (100%)	n=2 (33%)	n=3 (50%)	n=0	n=1
Average knowledge (%)	27%	93%	22%	56%	33%	100%
Average increase in knowledge	244%		153%		203%	

Table 14 - Pre- vs post-training knowledge for question 4*

	Burwood Nursing Home (n=5)		Seabourne House Care Home (n=6)		Mealtime Assistant (n=1)	
	Before	After	Before	After	Before	After
No. of attendees who mentioned urine colour	n=3	n=0	n=6	n=0	n=1	n=0
No. of attendees who mentioned the 'pinch test'	n=3	n=0	n=3	n=0	n=0	n=0

No. of participants who included the correct answer in their selection	n=4	n=4	n=4	n=6	n=1	n=1
No. of participants who <u>only</u> stated the correct answer	n=1	n=4	n=0	n=1	n=0	n=0

* Question 4 was more challenging to assess, as the majority of participants not only selected the correct answer but also selected other responses. As one of the aims of the e-learning was to debunk some of the myths around hydration in older people (e.g. urine colour should not be used; there is no one sign/symptoms to tell if an older person is dehydrated), the results from this question were assessed based on the number of participants who mentioned 'urine colour' and the 'pinch test (skin turgor)', in addition to the number of participants who answered only the correct answer.

Table 15 – Pre- and post-training confidence levels of participants

		Number of participants selecting each level of agreement											
		1	2	3	4	5	6	7	8	9	10		
1.	I can explain the difference between good and poor hydration	Before				1		3		1	1	2	4
		After								2	2	3	5
2.	I understand the impact of good / poor hydration on someone's health and wellbeing	Before				1		1		2	1	1	6
		After								1	2	2	7
3.	I feel confident and knowledgeable to assess someone for risk of dehydration	Before				2		2		2	3	1	2
		After							2	1	3	2	4
4.	I feel confident and knowledgeable to advise my clients on how to improve their hydration	Before				2		3		1	3	1	2
		After								2	3	3	4
5.	I feel confident that I have the ability to create an action plan based on my client's needs around hydration	Before		1	1		1	2	1	1	1	2	2
		After				1			2	1	2	3	3
6.	I feel confident at engaging (or talking to) my client's family member(s) around the importance of good hydration	Before		1	1	1		1	1	2	1	1	3
		After							1	1	3		7

7.	I feel confident and knowledgeable to talk to other carers in my organisation about hydration	Before		1	1	4	1		1	3	2	2
		After							1	3	2	6
8.	I feel that receiving training on hydration is important for my role	Before					1			2	1	8
		After								2		10

Figure 8 – Devices being used to access the E-learning

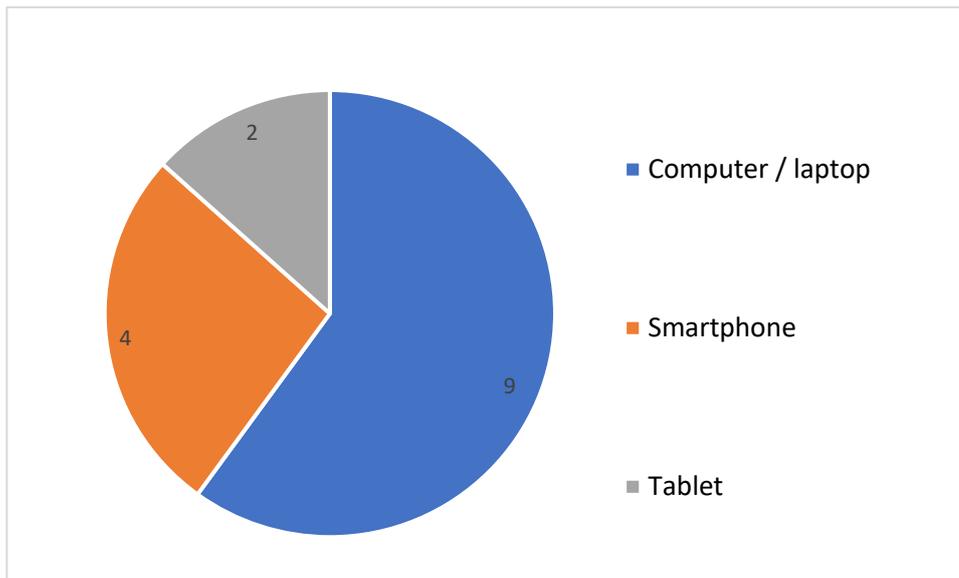


Table 17 – issues / areas for improvement and how these were resolved prior to publication (blue text denotes information / comments from Burwood Nursing Home; red text denotes information / comments from Seabourne House)

Issue / way the learning could be improved	What the Wessex AHSN team did to resolve this prior to publication of the E-learning module
Various IT issues mentioned by Burwood Nursing Home and the Mealtime Assistant	The majority of these issues had been resolved prior to the e-learning being completed by staff at Seabourne House Care Home
Include different questions for care homes / domiciliary care providers / relatives or carers in the quiz questions, adapting case study question dependent on audience	For the testing, there was only one generic quiz / assessment available. This was changed following testing to have two quizzes; one for care home staff and one for all other carers including those in domiciliary care
Last case study quiz question least liked	This question was changed to make it much easier to understand
Mixed response to question on % water in the body – some liked it, others felt not enough information was given to answer the question	This was changed to be posed as an interactive question, followed by an explanation of the roles of fluid in the body

When an image is clicked on, the preference would be for the text to stay visible and not disappear when the next picture is highlighted	This functionality was added to the module
Highlight key information that is needed for recall in the quiz in each section	Added a 'hover here to see case study' button
Ability to go back and forward on the training to repeat sections as required	This functionality was added to the module
Ability to know the right answer when answered question wrong in quiz	A 'review quiz' option added so the correct answers can be seen once they've finished
Participants felt, regardless of IT issues takes longer than 40 minutes to complete	Quoted time to complete changed to 'approx 45 mins'. This was checked against the audio whilst allowing time to answer questions
Water droplets – the information was to the right of where indicated making it difficult to know where to click	The 'space' to click was widened so this would no longer be an issue
Sometimes skipped over some of the text when reading – having subtitles and voice over would mitigate this	Voiceover / audio was added throughout
Addition of resources would be "fantastic"	Links to recommended resources added via a 'Resources' tab within the module
More activity in section 2 – welcomed suggestion of Grandad's Story being added	Grandad's Story was embedded into the module in section 2