

A feasibility trial to evaluate an approach to improve hydration in domiciliary care:

Evaluation Report by Wessex AHSN

1.0 Executive Summary

A feasibility trial (with the aim to inform a larger project) was run by the Wessex AHSN in collaboration with Hampshire County Council (HCC), Apex Prime Care (Havant branch, Hampshire) and other partners to trial an approach to improving hydration among older people receiving domiciliary care. As well as aiming to collect some measurable outcome data, the trial looked to evaluate the acceptability of the approach (e.g. in terms of data collection methods, and whether it was perceived as effective) to both carers and clients. It was run over three months from December 2018 to February 2019.

A two-hour training session was provided to 12 carers from Apex Prime Care to equip them with the appropriate knowledge and skills to carry out the feasibility trial. Once trained, the carers were asked to use the approach to a small cohort of nine clients who gave informed consent. This incorporated providing drinks and encouragement, trialling drinking aids and data collection. Evaluation methods included carer focus groups, client questionnaires and reviewing the data collection forms.

There were issues around incomplete data collection and small numbers of clients involved. Consequently, conclusions around whether the approach increased fluid consumption, wellbeing, or a reduction in clinical incidents (e.g. falls and urinary tract infections (UTIs)) could not be made. However, plenty of feedback was received on amending the approach for a wider pilot, from both carers in the focus groups and on review of the data collection forms. Suggestions included simplification of the data collection forms and improved communication to the carers on specific dates when data should be collected. The findings and recommendations from this trial will be taken forward to inform the wider pilot which will commence in mid-2019.

2.0 Project Background & Introduction

2.1 Context

In 2018-19, Hampshire County Council (HCC) and Wessex AHSN worked in collaboration on an approach to improve hydration in 17 HCC owned care homes based on the Hydrate in Care Homes work originally undertaken by North East Hampshire and Farnham CCG, and later developed further, implemented and evaluated by Kent Surrey and Sussex AHSN (KSS AHSN)¹. This involved adapting the resources from KSS AHSN, providing training to hydration champions and managers, carrying out evaluation and networking workshops to keep homes engaged and collecting quantitative (e.g. on falls, UTIs) and qualitative data (e.g. acceptability for residents, family and staff). At the same time, HCC also approached Wessex AHSN to discuss whether the work could be adapted to pilot an approach for improving hydration of people living in their own homes in receipt of domiciliary care.

To date an approach to improving hydration in domiciliary care has not yet been undertaken due to the unique challenges within this setting. Keeping well hydrated is an essential part of healthy ageing. The number of people suffering from dehydration in the UK is not known and no information is available on incidence of dehydration amongst people living in their own homes (or in the subset receiving domiciliary care). Part of the challenge is that there is no recognised screening tool to detect dehydration and method of diagnosing dehydration can differ amongst healthcare professionals. One study showed that 37% of acute admissions over the age of 65 were

¹ <https://www.kssahsn.net/what-we-do/moderating-demand/Hydrate/Pages/default.aspx>

dehydrated on admission to hospital². Dehydration is also more common in people with cognitive impairment and changes to functional ability, including swallowing issues, dementia and poor-controlled diabetes³ (which are common among people receiving care at home).

There are two phases of work in this project

1. Carrying out a feasibility trial with a small number of carers and clients in one 'care round' within one branch of a domiciliary care agency
2. Taking the learning from this feasibility trial to inform a wider pilot involving a larger number of clients and carers

This report evaluates the feasibility trial (initial phase). The approach for the feasibility trial included the following:

- Adaptation of resources from the HCC care homes project
- Provision of training to the carers employed by the agency (note that family and friend carers were not included as part of the trial)
- Use of the ROC™ (Reliance of Carer) to drink tool⁴ to assess clients' hydration needs
- Development of a simple pathway to enable carers to carry out appropriate actions depending on the outcome of their hydration assessment
- Trialling aids such as coloured coasters and the Droplet™ smart hydration system⁵
- Trialling data collection methods such as the Drinks Diary⁶, wellbeing and mood measures

The project has been a collaboration between the following organisations:

- Hampshire County Council (HCC)
- Apex Prime Care, Havant
- Wessex AHSN
- Hydration Care Consultancy
- Southern Health NHS Foundation Trust
- South Central Ambulance Service NHS Foundation Trust

2.2 Aim

To develop an approach for improving hydration that works in the domiciliary care setting – involving a sample of older people using one domiciliary care agency (Apex Prime Care, Havant) in Hampshire. This evaluation forms part of that development process.

2.3 Objectives

- To evaluate the provision of training to Apex Prime Care staff (carers and team leads) on the importance of good hydration and how to improve hydration in the domiciliary care setting
- To evaluate the use of different aids to assess and improve hydration, including the Drinks Diary, ROC™ (reliance on a carer) to drink tool, coloured coasters and Droplet™ smart hydration system
- To evaluate the impact of the trial on the clients receiving care by the agency staff (e.g. amounts drunk, changes to perceived health and wellbeing)
- To help inform which outcome measures could feasibly be collected as part of a larger pilot
- To complete a structured evaluation with learning that could be translated into a larger pilot in 2019

² 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.

³ The British Nutrition Foundation (<https://www.nutrition.org.uk/bnfevents/events/83-nutritionscience/life.html>)

⁴ The ROC hydration care assessment tool: <https://www.hydrationscareconsultancy.co.uk/roc-hydration-care-assessment-tool/>

⁵ <https://www.droplet-hydration.com/products/>

⁶ <https://www.uea.ac.uk/medicine/research/research-evidence-studies/drinks-diary>

3.0 Methods

3.1 Project development

A project steering group (with membership from key collaborators / partners) was set up in early 2018 and regular meetings have been run since then to keep the project on track, agree key actions, agree the project brief and all other processes. Apex Prime Care agreed to take part in the hydration project in the Autumn 2018. Data collection forms, information sheets and consent forms were developed, and outcome measures were agreed. The trial was approved by the Hampshire Social Care Research Development and Governance panel (a department within HCC).

3.2 Training

Training materials were developed (adapted from the HCC care home project), which included a PowerPoint presentation, case studies and a session plan. A training session was run in October 2018 for the carers at Apex Prime Care. Pre- and post-session knowledge / confidence questionnaires and end of session evaluation forms were put together. The training resources can be viewed / downloaded from the Wessex AHSN website⁷.

3.3 Data collection

The carers explained the trial to the clients verbally, provided the information sheet and obtained signed consent from those willing to take part. Data was collected by Apex Prime Care over a 12-week period, starting in the first week of December 2018. It was agreed that data collection would consist of:

- A carer assessing each client using the ROC™ tool at the start, mid-point and end of the trial (plus any other time-points where a significant change / clinical incident occurred)
- Keeping a Drinks Diary and record of the client's general wellbeing and mood for 3 days at the start mid-point and end of the trial with the client filling these in with carer support as needed. Whilst family members were not involved in the project in terms of obtaining their feedback, they could provide support to those clients who needed help in recording their data
- The carers keeping a record of any incidents (falls, UTIs, ambulance call-outs, conveyances to hospital, A&E attendances and hospital admissions)
- For those clients who were offered the Droplet™ smart hydration system, a record of their preferences, including light or voice reminders and their frequency, were recorded
- Completion of case studies (by agency staff) using information collated from different sources

3.4 Evaluation methods

The following evaluation methods were used:

- Evaluation of training: pre- and post-session knowledge and confidence questionnaires were completed by carers at the start and end of the training session
- Evaluation of care staff views: focus groups carried out with Apex Prime Care staff at the mid-way point and end of the trial. Focus groups were held at the Apex Prime Care office and were recorded. They were led by two members of the Wessex AHSN Healthy Ageing team. Questions were agreed in advance and approved through HCC governance and the project steering group. The agency Manager was asked to provide their personal reflections on the feasibility trial
- Evaluation of the client data: the data collection forms were reviewed and anonymously copied into an Excel spreadsheet to allow for analysis. Analysis of the data collection forms was carried out by looking for any trends in the data and case study stories

⁷ Training resources available at: <https://wessexahsn.org.uk/projects/204/hydration-at-home>

4.0 Results

4.1 Training session

A total of 12 staff from Apex Care attended the training session. The training session was run in the Apex Prime Care training room and was delivered by the Wessex AHSN dietitian and a member of the HCC training team.

4.1.2 Change in knowledge and perceived confidence levels

Eight participants (67%) completed both a pre- and a post-session knowledge and confidence questionnaire to enable comparisons to be made. Unfortunately, four people left slightly early so did not complete the post-session questionnaire. An average increase in knowledge of 13% was seen with a 31% average increase in total confidence assessing someone and giving advice. Table 1 shows the pre- and post-session knowledge levels for session; table 2 shows the pre- and post-session perceived confidence levels.

Table 1: Average percentage of pre- and post-session knowledge, along with % change in knowledge and ranges

Pre-course knowledge (%)	Post-course knowledge (%)	% increase in knowledge
62% (range 21-100%)	75% (range 43-93%)	13%

Table 2: Average perceived pre- and post-session confidence, along with % changes in perceived confidence across both areas

Pre-course confidence (/ 10)		Post-course confidence (/ 10)		% increase in confidence (average)
Assessing risk of dehydration	Advising / support as part of a hydration care plan	Assessing risk of dehydration	Advising / support as part of a hydration care plan	
6.1 / 10 (range 3 – 10)	7.4 / 10 (range 5-9)	8.8 / 10 (range 4-10)	8.9 / 10 (range 4-10)	31%

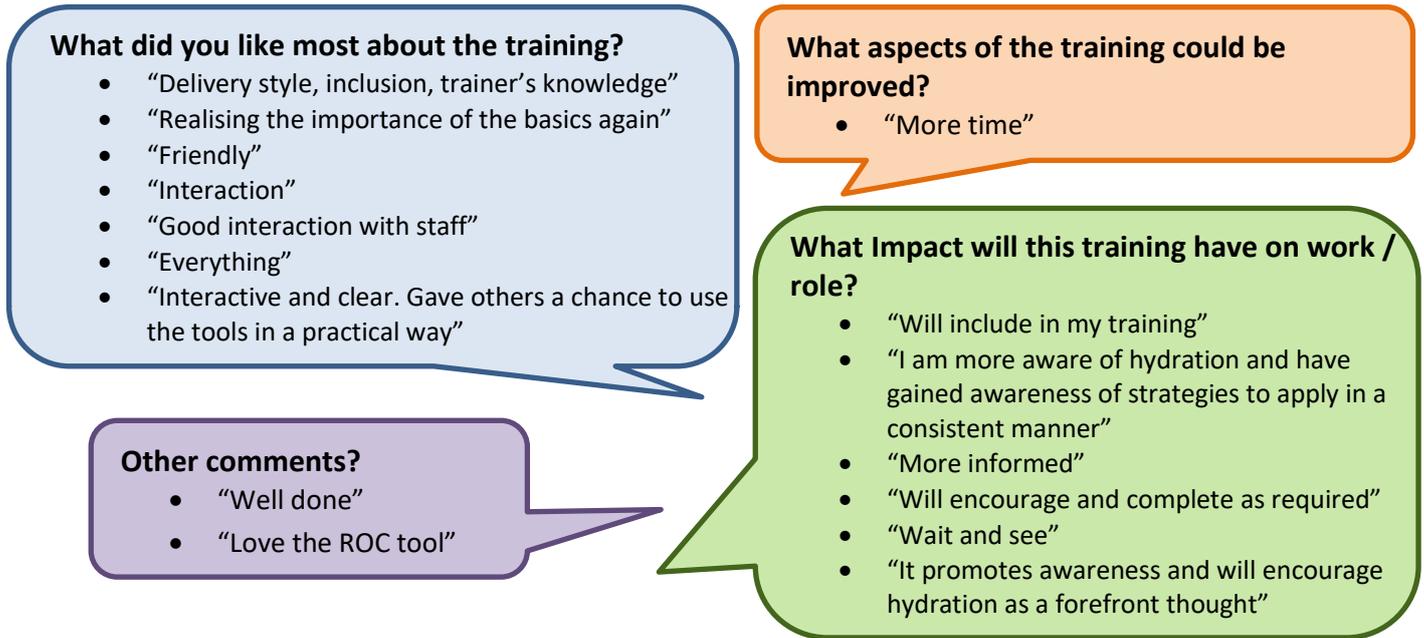
4.1.2 Session evaluation

Participants were asked to complete an evaluation form to evaluate the session as a whole and give specific feedback. 10 of the 12 participants completed this. Data on this evaluation is recorded in table 3 and chart 1. In addition to the questions shown on table 3 and chart 1, participants were asked to provide an overall rating for the training session, with 50% rating it as 'excellent' and the other 50% as 'good'.

Table 3: 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	3			
I will be able to apply the knowledge / skills learned	8	2			
The content was organised & easy to follow	7	3			
The resources provided were useful	7	3			
The quality of training was good	7	3			
The slides were easy to read & follow	7	3			
Group participation & interaction were encouraged	8	2			
Adequate time was provided for questions & discussion	6	4			

Figure 1: Post course evaluation data – additional questions



4.2 Process evaluation

4.2.1 Apex Prime Care staff feedback

Two focus groups were held with Apex Prime Care staff. The first was held nine-weeks into the trial with six attendees, five of whom also attended the second focus group at the end of the trial. Each attendee also completed a short questionnaire to obtain any additional comments or feedback. Figure 2 (below) shows a thematic review of the information provided from both focus groups and staff questionnaires.

Figure 2: Summary of focus group feedback

<p>What worked well?</p> <ul style="list-style-type: none"> • Family support was important in supporting clients, especially clients living with dementia • Care workers felt that the training changed the way they thought about hydration for the better • One care worker had received positive feedback from her client regarding the Droplet™ Smart Hydration system who felt it was dignified • All staff felt their own hydration had improved (<i>this was an unexpected positive outcome</i>) • Two clients had said the project has been really good and got them thinking more
<p>Anecdotal feedback on impacts on clients</p> <ul style="list-style-type: none"> • Two Care Workers reported that one client had improved their mood and was more upbeat and less apathetic • Two Care Workers highlighted that one client had reduced migraines and improved mobility
<p>What didn't work so well?</p> <ul style="list-style-type: none"> • Time involved in filling in paperwork • Some clients refused to take part and did not see the point of the project (<i>no data available for numbers refusing; this was direct feedback from carers</i>) • Drinks still there on subsequent visits – could not force clients to drink but only encourage • Some client and family members were unreliable in their reporting, e.g. Drinks Diaries • More challenging for clients that live alone • Forms could be made simpler • Different carers coming in and not filling in the right forms (e.g. staff were currently filling out the drinks diary rather than as requested for 3 days at the start, middle and end)

- Clients worried about extra trips to the toilet
- Some care workers felt they were not seeing their clients enough to make a difference
- Coasters disappeared, meaning the ROC™ rating was not easily visible to carers
- Two clients used the Droplet™ Smart Hydration system. One did not use it because the battery stopped working according to her care worker. One care worker reported that a client did not want to use it despite matching the criteria. One client found it useful
- Feedback was mixed around how to best encourage clients to take part of the study and prompt them to drink at each visit
- Challenges around cascading information to staff, e.g. which days to complete the Drinks Diary

Ideas for improvement from the Care Workers

- Ideas for communicating the ROC™ rating colour, e.g. use different colour folders; fridge magnets; coloured cups and changing after each visit e.g. morning, afternoon and evening so visually can see if the drink has been drunk
- Care workers liked the coasters, but needed somewhere to state what they were for
- Factsheets on continence, drinking and myth busting for clients and family members
- Discussed potential ideas for e-learning – needed to be smart phone compatible, e.g. an app – which would not log you regularly with volume as an option, but not mandatory. Consider podcasts which could be listened to between calls in the car
- Drinks Diary needed to be simpler, e.g. on one page per three days data collection and run from morning to evening (not evening to evening)
- Having a hydration champion may be really useful to keep carers engaged with the project and maintain momentum. Champions could have additional training to support them in this role
- Compatibility with the new PASS app electronic recording system used by the agency staff

The agency Manager provided a summary of their personal reflections of how the study had gone. The information provided can be seen in Appendix 1. These reflections were consistent with other observations seen as part of the trial, including issues around obtaining client consent and the challenges of collecting good quality data and maintaining staff engagement.

4.2.2 Feedback from clients

Client questionnaires were received back from three clients. The following is a summary of the data from these questionnaires. Figure 3 shows the ‘other’ comments left by the clients.

- Two clients (client #3 and 4) felt the amount they now drink is the same as it was 3 months ago; 1 client (client #6) felt the amount they drink had increased (*these findings were not supported by quantitative data, probably due to the poor quality of the quantitative data, as shown in section 4.3.2*)
- Clients were asked if staff had encouraged them to drink more since the project started. 1 client said, ‘some visits but not all’ (client #3); one client said, ‘more than once per visit’ (client #4); client #6 said, ‘not at all’
- Client #3 used the following words to describe the project: ‘useful, helpful, kind, positive, important’; another client (client #4) used the words ‘not important, irritating’
- Two clients (client #4 and 6) felt that both their health and mood has stayed the same since the start of the project; one client (client #3) felt their health and mood had improved but that this was due to something else rather than the hydration project

Figure 3: Other comment provided by clients

“Helped clarify, helped with awareness of drinking habits, quantities and frequencies. Project has helped to emphasise the importance of proper hydration. Consolidating a long-term sustainable approach / attitude” (client #3)

“Waste of time. Carers not even filled in forms” (client #4)

“Waste of time” (client #6)

4.3 Impact on client hydration

A total of 10 clients on the 'care round' were approached and provided information about the trial. A total of nine clients provided informed consent and enrolled on the feasibility trial. The demographics, living status, reasons for domiciliary care and drop out reasons are shown in table 4. Data was received for five of the clients enrolled on the trial (clients 1, 2, 3, 4 and 6).

Table 4: Information about the 10 clients on the care round

Client number	Gender (M/F)	Living / accommodation status	Number of calls per day	Primary reasons for calls	Reason for drop out
1	F	With daughter	4	Personal care, hydration, medication	n/a
2	F	Warden assisted property	3-4	Personal care, hydration, nutrition	n/a
3	F	With son	2	Personal care, hydration, nutrition	n/a
4	M	Warden assisted property	2	Personal care, hydration, nutrition	n/a
5					Got stressed about the project so pulled out
6	M	Lives alone	3	Personal care, hydration, nutrition	n/a
7					Went into hospital
8					Went into respite
9					Declined to take part
10					Passed away

4.3.1 Client ROC™ tool ratings

Each client was only assessed at the start of the project (not at the mid and end point as originally planned) – as shown in table 5. This meant that no data was available on whether client ROC™ tool ratings changed during the study period. No data was available on specific actions taken for people with amber and red ratings (e.g. onwards referrals, signposting, discussions with family/friends) and follow up actions.

Table 5: ROC™ tool rating at the start of the trial (all recorded on 29.11.18). G=green; A=amber; R=red

Client number	ROC rating					
	Swallow	Assistance	Encouragement	ROC overall	Pour drink	Get own drink
1	G	G	A	A	A	A
2	G	G	G	G	A	A
3	G	G	A	A	R	R
4	G	G	G	G	G	G
6	G	A	G	A	A	A

4.3.2 Data from Drinks Diaries

The days on which Drinks Diaries were recorded differed between clients. For each one, three days of drinks intake has been recorded before the start of the project (end of November / beginning of December – not necessarily on the same days). The mid-project data was recorded towards the end of December / beginning of January. No data was available for a 3-day period towards the end of the 3-month feasibility trial. Table 6 (below) shows the total fluid intake recorded, using the guidance from the Drinks Diary. Using the data recorded, client #3 had a slight increase in fluid intake, and the other clients had a reduction in fluid intake.

Table 6: Fluid intake recorded on Drinks Diaries

Client	Start of feasibility trial			Average	Mid-feasibility trial			Average	Notes
	Day 1	Day 2	Day 3		Day 1	Day 2	Day 3		
1	2100	870	1020	1330	930	-	-	N/A	Completed most days until 3 rd Dec; then once on 23 rd Dec
2	1625	960	960	1180	960	560	700	740	Completed sporadically until 25 th Dec
3	1585	1125	1180	1300	1265	1440	1480	1400	Completed most days until 27 th Dec
4	455	1260	1060	925	780	480	420	560	Completed sporadically until 2 nd Feb
6	1580	2320	1170	1690	1350	1340	750	1150	Completed daily from 1 st to 26 th Dec

4.3.3 Data from mood / wellbeing forms

Each client was only assessed for 1-2 days at the start of the project (not at the mid and end point). This meant that no data was available on any changes to mood / wellbeing over the study period. Table 7 and 8 show the data from the wellbeing and mood forms at the start of the project.

Table 7: Data on general wellbeing / mood forms

Client number	Start of feasibility trial		
	Day 1	Day 2	Day 3
1	10/10	No data	No data
2	9/10	9/10	No data
3	5-6 out of 10	6/10	6/10
4	6-7 out of 10	No data	No data
6	5/10 - recent hospital discharge and falls	No data	No data

Table 8: Data on mood from the wellbeing / mood forms

Client number	Start of feasibility trial		
	Day 1	Day 2	Day 3
1	Quite happy today	No data	No data
2	Normal quiet and calm, lonely	Normal	As usual. Quiet but chirpy
3	Drowsy, neutral	Neutral, cheerful	Cheerful, subdued
4	Sleepy and happy	No data	No data
6	Good mood but sad, emotional, frustrated	OK but sad	No data

4.3.4 Data from incident tracker forms

One client (client #6) had a fall on day 3 and day 7 of the project. No other clinical incidents were recorded.

4.3.5 Client case studies

Six client case studies were returned from the agency (for clients 1, 2, 3, 4 and 6; and also for client 8 who went into respite part-way through the project). Whilst there was minimal feedback in the majority of them, none of them state that any clients had worsened since the feasibility trial. Carers also reported that they were leaving clients with drinks more often, which was a positive outcome. In addition, one case study was particularly positive, and a copy of this can be found in appendix 2.

5.0 Discussion and recommendations

5.1 Data collection / metrics

- *Drinks Diaries* – it was planned that the clients would complete these themselves. However, it was apparent from feedback that carers were completing them instead. No data was available about issues such as dementia although it was raised during the focus groups. This may have affected the ability of some clients to do this. In addition, the plan was that the Drinks Diaries should have just been completed for three days at the start, at midpoint and the end. This was not communicated effectively to the carers, so they were completing them every day for most clients. This gradually reduced over time, meaning less data was available for mid-project and none at the end. One carer in the focus group suggested that carers were probably completing them more diligently at the start, and enthusiasm waned over time. Feedback from the focus groups also discovered that carers felt the Drinks Diaries were too long and onerous to complete and something simpler on one page would be preferable.
- *Wellbeing / mood data collection forms* – due to lack of data, nothing could be concluded from this. Again, improved communication to the carers on when these needed to be completed would probably have increased compliance.
- *Incidence tracker forms* – one client had two falls recorded in the early part of the trial. Due to issues with data collection, no conclusions could be drawn about this client in relation to their fluid intake, wellbeing or mood.
- *ROC™ to drink assessments* – as the assessment was only completed at the start of the trial, and clients were not re-assessed, no conclusions could be made about the results. There was limited feedback from carers on the perceived usefulness of the ROC™ to drink tool, probably because it was only used at the start of the trial.

5.2 Use of drinking aids

- *Coasters* – these were provided to highlight the client's colour coding as determined by the ROC™ to drink tool. Feedback recorded that they disappeared, so improved systems will be needed to keep track of them. Their significance needs to be communicated more effectively to the clients / family members.
- *Droplet™ smart hydration system* – limited feedback from the clients as already detailed. Further feedback will be sought as part of the wider pilot.

5.3 Implementation of changes around hydration

It was clear from both client and staff feedback that the implementation of changes and messages around hydration (by carers following the training) was patchy, with some carers being more consistent with the messages and tracking than others.

5.4 Impact of the project on hydration

Due to a lack of evidence, caused primarily by difficulties with data collection by the carers, no conclusions can be drawn on whether the project improved client hydration. In addition, no links could be made between the qualitative and quantitative data collected from the clients due to these difficulties. For the wider pilot, improved communication will be required on when the different forms should be completed to improve compliance and resulting data quality. One positive and unexpected outcome was that the carer's own hydration had improved as a result of the project (this was reported from care workers at the focus groups). One really positive case study was submitted, also indicating improved hydration for one client.

5.5 Recommendations for the pilot

- *Project name* - there is a need for a project name. This will give the project more credibility and can be used to brand the data collection sheets and resulting toolkit that comes from this work

- *Agreement of data collection methodology* for the pilot. Appendix 3 outlines for data collection plans for the pilot, which have been sent to the hydration steering group for feedback. As part of this agreement process, interim telephone meetings are being held between Wessex AHSN and the hydration lead
- *New form to record drinks intake* - to make it more user friendly and easy to complete, a new drinks recording form will be needed for the pilot. The data on drinks intake should be completed for three days at baseline, start of intervention and end of intervention. The form could be completed by the clients themselves where they are able (improved communication around this would be needed on the project information sheet about the project). Carers could complete the forms where clients struggled.
- *Communication of data entry timeframes* - Clarification on when the drinks recording and wellbeing forms should be completed needs to be communicated to the agency. The agency will need to send out diary reminders for staff – which could be done using the new electronic app-based recording system. To aim for 3 x three-day time periods that are agreed in advance, so all carers know they need completing.
- *Update the client questionnaire* – to include some specific questions about number of drinks consumed each day. To ask clients to complete this at the start of the pilot as well as at the end.
- *Update the carer (staff) questionnaire* – to include some specific questions about number of drinks consumed each day (to show whether the approach also enables carers to improve their own hydration). To ask carers to complete this at the start and end of the pilot.
- *Agree agency(s) involved* – agree whether pilot will be carried out with another Apex Prime Care agency in another location within Hampshire as well as the Havant branch by the end of March. Once this has been agreed training dates can be confirmed for end of June / beginning of July.
- *Better reminder systems of the ROC rating* - care workers have been asked to come up with a design for fridge magnet which could be used as a visual reminder of the client's ROC rating. Wessex AHSN to re-order more coasters and send out communication about these to the agency(s). To also include some information about what the coasters (and fridge magnets) are for on the information sheets / hydration leaflets for clients and family members.
- *Droplet™ smart hydration system* – to order additional supply for the pilot
- *Create information sheets / update client leaflet* – to include additional information sheets available for clients / family members, e.g. about incontinence
- *Considerations when discussing the project with clients* – feedback was received by the agency that clients were more likely to sign up to the project when the carer providing the information was positive and 'on board' with the project. To consider which carer provides the information / seeks consent with the client

5.6 Additional recommendations

- Business case for tender is presently being developed by Hampshire County Council to support an e-learning package
- Explore hydration champions/advocates within each agency branch
- Following discussions with Public Health England (who consulted their Nutrition, Diet, Obesity and Physical Activity teams), there is a need for the development of a leaflet specifically about hydration for older people. There is an opportunity for the hydration steering group to jointly develop this.

6.0 Conclusion

The small number of clients involved in this project and incomplete data collection have meant that no meaningful conclusions to be drawn as whether the approach increased fluid consumption and wellbeing, or decreased clinical incidents. However, there are learnings from implementation through feedback from carers' focus groups and reviewing data collection forms that are helpful in planning a wider pilot involving more clients and potentially more agencies. Improving the hydration of clients in receipt of domiciliary care was known to be challenging and this feasibility project has proved an extremely useful first step towards achieving this aim.

Appendix 1: Manager's reflections

“Upon evaluation of our participation in the hydration project, we have found that several areas could be developed in our own practice to ensure further participation would be more effective.

Training more carers - so more of the key carers could be on board with the project and ensure engagement and participation was more standardised. Colleagues would be more at ease with encouraging the clients' participation. This would also be beneficial in the event that a carer covers a call with the client in the event of sickness.

Clarity around when to complete the documents – Communication. At the start of the project there was a misinterpretation of the intent of the regularity of documentation using the fluid intake charts. This led to some clients becoming disengaged as they found the process stressful. The carers also found this process to be frustrating as clients who live independently, especially with dementia were not documenting their intake as they went and were unable to remember what they had consumed.

Key carer per client – Weekly catch ups. Key worker for each client could be allocated to be a hydration champion who would monitor their progress closely and observe any changes or improvements. This would be a carer who regularly attends visits with this client. The office could have weekly telephone calls to review each of the cases and receive a more formal structured feedback as opposed to the less frequent interim monitoring. This would allow opportunities for intervention and misconception correction.

Coasters didn't appear to work well – Magnets on the fridge? Colour coded folders? For our clients, coasters are an aesthetic feature of their immediate environment (often a precisely set up tray table). To have unfamiliar objects in this area can be confusing and frustrating. It may not be immediately apparent to the clients that these are coasters as they are not in the style and of the material that they would immediately associate with coasters. Should we use colour coded floppy folders for care notes this will be immediately obvious for carers and they will be unable to avoid noticing them? Should this be accompanied by “ROC assessed” colour coded fridge magnets to help other medical professionals who access the fridge for DNAR documents etc to also be aware of the need to monitor in case of hospital transfer etc.

Easier format for recording – clients. The carers' feedback reflected that clients struggled to complete the intake paperwork independently. This meant that when the carer attended, the client had forgotten what their intake was. A more beneficial format for clients recording may be something more easily accessible that they could keep in the kitchen when they make themselves a drink. Obviously, this varies from client to client. In this field it would be difficult to find an appropriate one size fits all approach.

Fluid charts – Care professionals frequently use fluid charts and care plans to monitor those who are at risk of dehydration or infection (e.g., catheterised, unable to make own drink, history of infection). The hydration project could use the existing paperwork or work with the company to use standardised paperwork to complete this, meaning all paperwork was kept in the same place and filled out as a matter of course. We are currently transitioning to the PASS system so this information could be recorded electronically in line with this.

In contrast, several things have gone well in our practice for completing the project. Like Waterlow and 'MUST' assessments, the ROC tool is a useful and standardised method for assessing individuals and their likelihood to become dehydrated. This can then impact upon the care our clients receive both from us and other professionals ensuring a consistent approach in the care provided throughout the individual's journey in care.

In highlighting hydration for the carers, this has encouraged them to pay closer attention to the fluid intake of our clients but we have also noticed that our carers have taken more care of their own intake.

Droplet was used with one client. She responded well to it and her family were grateful for its implementation.

In participating in this project, we chose our most vulnerable clients along with others to ensure variation of subject. Unfortunately, this led to a reduction in participants as some of the clients sadly passed away or moved on to residential care.”

Appendix 2: Client case study

<p>Client information</p>	<ul style="list-style-type: none"> • 84 years old • Female • Receiving two carer visits a day (morning and evening)
<p>Comments on general health and wellbeing</p>	<p>Not particularly active due to problems with legs; but can potter around</p>
<p>What issues were experienced before the project?</p>	<p>Constant urinary tract infections (UTIs) and confusion</p>
<p>What did you (or your team) do to improve hydration for this client?</p>	<ul style="list-style-type: none"> • We made sure plenty of drinks were on hand • Fresh bottles were made up with juice and left in the fridge • Hot drinks were also made on both visits, along with having nice chats whilst drinking • By providing these drinks, it usually ensured both cups were drunk
<p>What happened as a result of the client taking part in the project?</p>	<ul style="list-style-type: none"> • No falls since the start of the project • Only had one UTI since the start of the project • GP has only had to be contacted for problems with her legs

Appendix 3: Proposed data collection plans for the pilot



July

August

September

October

November

- **Drinks diary (simplified version):** 3 days at start
- **Wellbeing (EQ-5D):** 1 day at start
- **Client questionnaire (paper)**- amounts currently drinking, health status, mood, wellbeing, continence
- **ROC tool** - at start (and if any clinical changes occur through project)
- **Staff questionnaires** – at start to ask what they currently do, own hydration

- **Drinks diary (simplified version):** 3 days at end of baseline / start of study phase
- **Wellbeing (EQ-5D):** 1 day at end of baseline / start of study phase
- **ROC tool** - at end of baseline / start of study phase
- **Training** – pre and post knowledge & confidence check

- **Drinks diary (simplified version):** 3 days at end
- **Wellbeing (EQ-5D):** 1 day at end
- **Client questionnaire (paper)** - amounts currently drinking, health status, mood, wellbeing, continence...
- **Family questionnaire:** at end (approx 5 questions)
- **ROC tool** - at end
- **Staff surveys** (paper / online)
- **Staff focus groups** - at end
- **Case studies** – during the project

Small sample of staff telephone interview (max 10-15 min)– at mid-point of study phase

'Incident tracker' form – to be completed every time an incident occurs through 5 months (baseline & intervention)– tick chart on 1 piece of paper. To record falls and UTIs diagnosed only