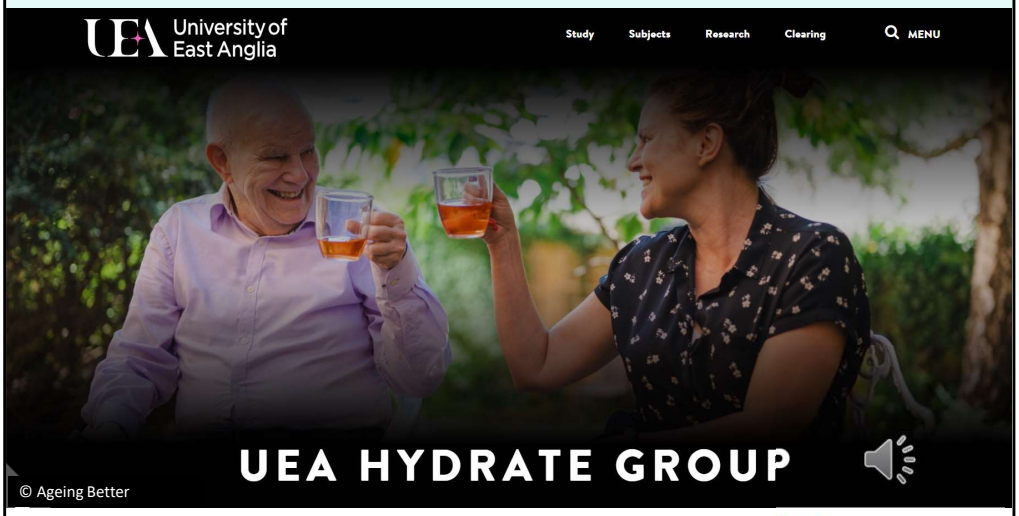
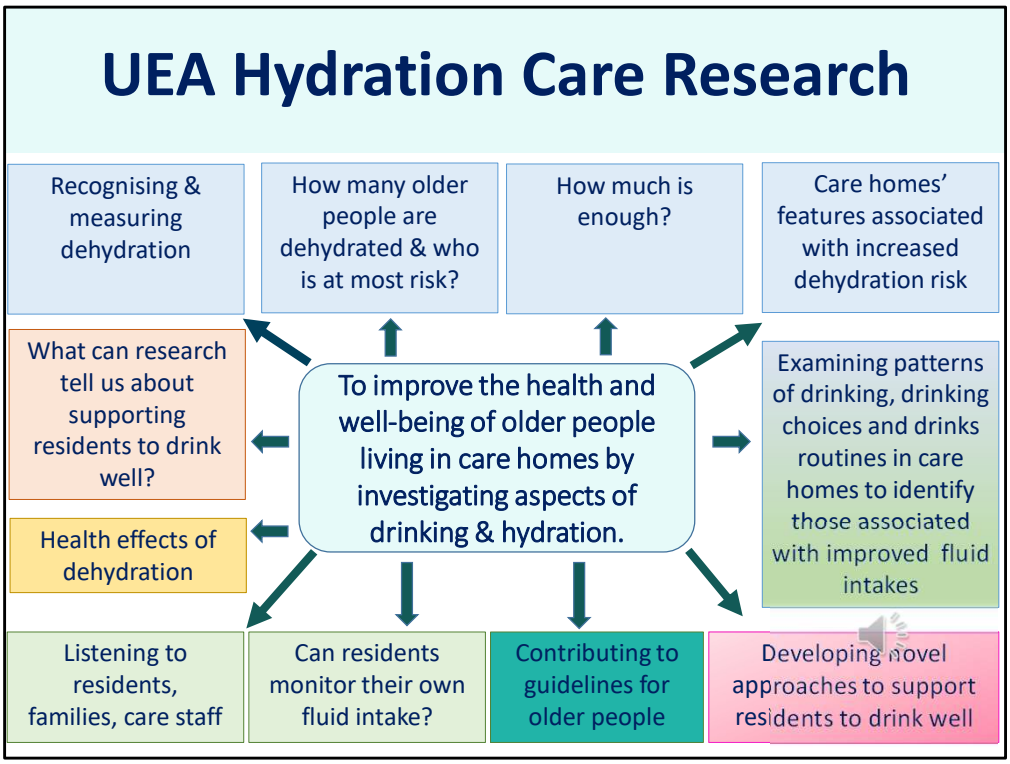

Hello, I am Diane Bunn, currently an Honorary Teaching Fellow at the University of East Anglia. Over the last 15 years, I have been interested in hydration care for older adults, ensuring that they drink well to maintain good health. As we go through the slides, I will describe why drinking well is a particular problem for older adults and why dehydration, which occurs when we don't drink enough, is a common problem which can easily be prevented by good care. As all good nursing care should be evidence-based, the work presented here is evidence-based and much if it is based on the research which I have undertaken with colleagues at the University of East Anglia and Norfolk & Waveney ICB.

# UEA Hydrate Group:
## Researching into hydration care for older adults




https://www.uea.ac.uk/groups-and-centres/uea-hydrate-group

You can find further details of our hydration care research on our website. The website also contains links to wider research in this area.



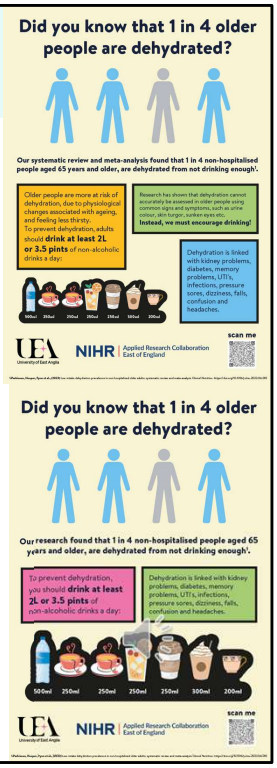

The UEA Hydrate Group have undertaken a number of research projects, some of which I will go into more detail about over the following slides.
Essentially, we have looked at:

- How big a problem dehydration is in older adults, in other words, prevalence.
- Whether some older adults are more at risk than others.
- What is the best way to recognise and measure dehydration in this population.
- Determining how much older adults should drink each day.
- What are the best ways to support older adults to drink well.
- What happens when older adults don't drink enough and become dehydrated.

## 1 in 4 older people are dehydrated

- Living at home or in a care home
- In our research, a very wide range, from 0-89%
- **What this means is that dehydration is highly preventable**
- Free Posters to download from: https://www.uea.ac.uk/web/about/school-of-health-sciences/research/projects/improving-drinking-for-people-living-with-dementia-in-care-homes
- Current work on hospital settings: numbers appear to be similar

*Parkinson et al, 2023. DOI:https://doi.org/10.1016/j.clnu.2023.06.010*





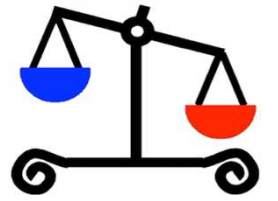


- How many people are we talking about?
- We have undertaken two systematic reviews to answer this question.
- A systematic review is when we gather together all the research in a particular area to find out what all the relevant studies, when grouped together, can tell us. This is a very robust way of provinding evidence to inform clinical care.
- The two SRs that we did looked at older adults living at home, in care homes and hospital settings.
- We found out that on average, 1 in 4 older adults are dehydrated at any one time. This is huge!
- However, some of the included studies had very low levels of dehydration, and others had very high levels. We think that this tells us that dehydration is highly preventable, and that is where we need good nursing care to ensure that we prevent it.
- Ellice, one of our team, has designed posters which are free to download from her website. You can use these to put up in your work areas.

# Dehydration Definitions & Guidelines

## ➢ *Low-intake dehydration*

- we don't drink enough to replace normal fluid losses (sweat, respiration, urine, faeces)
- hypertonic: raised serum osmolality, loss of fluid from within cells, BP maintained




**Low-intake is the most common type in older adults**

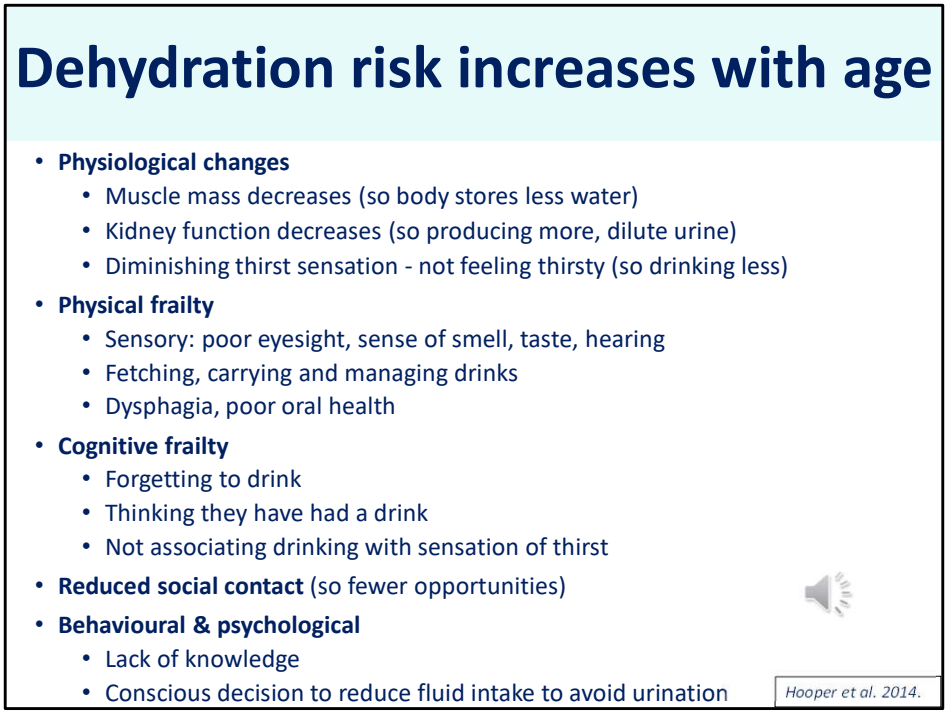
## *2. Salt loss dehydration (hypovolaemia, isotonic)*

- occurs in diarrhoea, vomiting or excess sweating
- different causes and management
- due to both a salt & water deficit
- normal osmolality, loss of extracellular fluid, BP reduced

*Frith, 2023:* https://doi.org/10.1093/ageing/afad193; *Lacey et al, 2019:* https://doi.org/10.1080/07853890.2019.1628352
*Volkert et al, 2022:* https://doi.org/10.1080/07853890.2019.1628352

- Before I go any further, I want to talk about two different types of dehydration.
- They are very different, having different causes, management and prevention strategies. Unfortunately, many healthcare professionals 'lump' them together, which could be harmful.
- Low-intake dehydration is when we simply do not drink enough to replace normal fluid losses. The main ways that we lose fluids from the body is by breathing, sweating, producing urine and faeces. In these circumstances, electrolytes remain normal, and the prevention and treatment is to simply ensure the person drinks enough. This is the most common type in older adults.
- The second type, salt-loss dehydration, is more pathological. This type occurs after vomiting and diarrhoea or haemorrhaging, for example. In salt-loss BOTH fluids AND electrolytes are lost from the body, so prevention and management are obviously different.
- For the rest of this talk I am only going to be talking about water-loss dehydration.


- We know that, at whatever age, we need to drink to remain healthy.
- Water is essential for life.
- It is a major component of body fluids such as blood, sweat, tears, saliva, urine, faeces, joint lubrication.
- Drinking and drinking well helps swallowing, digestion & waste removal, preventing constipation & UTIs and other infections.
- Drinking well ensures medication efficacy: by helping to swallow medications, aiding absorption in the GI system, and transporting the metabolites around the body via the circulatory system.
- Drinking well helps us focus, stay alert and gives us energy
- When drinking with others, this helps reduce loneliness & supports wellbeing




- Whilst dehydration is a risk for anyone of any age if they don't drink enough, older adults are at greater risk for a number of reasons.
- **Firstly, physiological**, due to diminishing muscle mass, kidney function and thirst sensation.
- Muscles are where we store most of our body's water, so as our muscle mass decreases with age (also known as sarcopenia), we have lower reserves of water.
- Kidneys also work less well with age. They are not so good at concentrating urine so older adults tend to pee out more dilute urine. Kidneys are heavily involved in maintaining the body's fluid balance, so if they are not functioning as they should, dehydration occurs much more quickly.
- Similarly, the thirst sensation, our trigger to drink when we are becoming dehydrated, also weakens. This means that older adults are much more severely dehydrated by the time they feel thirsty.
- **Secondly, physical frailty**. Fetching, carrying and managing drinks becomes more difficult due to physical difficulties, such as arthritis, a stroke etc.
- It is much more difficult to hear if offers of drinks are being made, and seeing where the drink has been placed. Drinks may smell and taste different, so they are not as enjoyable as they once were.
- Many older adults may experience poor oral health as well as swallowing difficulties.
- **Thirdly, cognitive frailty**, where older adults don't recognise the drink as being a drink, especially if served in a different type of cup or glass. They may forget to drink, and if they feel thirsty, can't verbalise that or relate it to needing a drink.
- **Fourthly, we drink more when socialising with friends**, like going out for coffee, so if those occasions are reduced, then drinking is likely to be affected. If looking after older adults in hospital, a care home or at home, encourage their visitors to bring in drinks and have a drink together.
- **Finally, many older adults choose not to drink, because they don't know how important it is, or because they are worrying about continence or needing help with the toilet**. But we have to pee to stay healthy, so nurses can do a lot to remind people of this.
- These are just some of the issues effecting people's drinking behaviours, do think about how you, as a nurse, can address these in your nursing care.

## Dehydration is bad for our health

**Not drinking enough**

↓

**Dehydration**

For a good, referenced discussion on co-morbidities, see Lacey et al, 2019: https://doi.org/10.1080/07853890.2019.1628352

**We need to help people to drink to prevent dehydration.**
**Dehydration can cause a range of issues, including:**

- Unplanned hospital admissions
- Pressure ulcers
- Constipation
- Heat stress, infections, kidney stones
- Stroke
- Deaths

Confusion & delirium
Poor wound healing
Urinary tract infections (UTIs)
Drug toxicity
Falls
Disability

So, many good reasons to help your patients drink well!

# Effect of dehydration on health

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- **Associated morbidity in older people[1-7, 18-20]**
  - Poor wound healing, constipation, kidney stones, falls, frailty, CVD, AKI, venous thromboembolism, increasing disability, impaired cognitive performance
- **Increased risk of hospital admissions & length of stay[8-10, 20]**
- **Increased mortality[4,11-17,20]**
  - RR: 1.4 (95% CI: 1.0 to 1.9) at 8 years[4]
  - OR: 2.7 (95%CI: 1.2 to 6.2)[16]
  - OR 2.3 (95% CI 1.8 to 2.8) for death following pneumonia[17]
    - consistent moderate-quality evidence, mainly from observational studies, that improving hydration reduces risk of medium-term mortality in all types of pneumonia
    - supporting hydration and reversing dehydration has potential to have rapid positive impacts on pneumonia outcomes in older adults.

[1]Arnaud, 2003; [2]Chan, 2002; [3]Kelly, 2004; [4]Stookey, 2004; [5]Stotts, 2003; [6]Taylor, 2004; [7]Feehally, 2015; [8]Natalwala, 2008; [9]Wakefield, 2008; [10]Xiao, 2004; [11]Bhalla, 2000; [12]Bourdel-Machisson, 2004; [13]El-Sharkawy, 2015; [14]O'Neill, 1990; [15]Warren, 1994; [16]Sedarous, 2016; [17]Hooper, 2022; [18]Suhr, 2004; [19]Atciyurt, 2023; [20]Edmonds, 2021

For those who are interested in finding out more about the damaging effects of dehydration, look up the references on this slide.
The point that I think is particularly relevant on this slide, is when you are looking after older adults with chest infections – those that remain well hydrated are likely to recover more quickly and are less likely to die, so helping people to drink when they have a chest infection is very important.

# Drinking and dependency

© Five reasons to recycle your walking aids | Recycle Now

In care environments, drinking becomes a supported activity

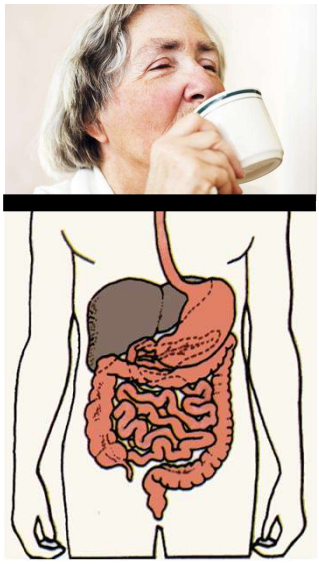
© Continence Consultancy Service

© Ageing Better

However, supporting people to drink well is not easy, as you well know. And for those who are not independent drinkers, providing effective care is complex, and I will go on to talk about that in some more detail.

## Drinking & Hydration: what's the difference?

*"The act of swallowing divides nutrition's 'two cultures'. The post swallowing world of biology, physiology, biochemistry and pathology, and the pre-swallowing domain of behaviours, culture, society and experience."*



Drinking (psychosocial)

Hydration (physiological)

*Crotty, 1993; Philpin, 2012*

**Before** I go any further, I want to talk about terminology.
I think this quote by Patricia Crotty, a nutritionist, sums up what we are talking about here very clearly.
She points out that eating and drinking is essential for healthy bodies – the physiological aspect of nutrition and hydration. Involving appetite and thirst where the brain, stomach, hormones all play a part
But the way we take in food and drink, by eating and drinking, is psychosocial.
Eating & drinking is an interactive experience influenced by the relationships individuals have with family, carers, friends, community and society, as well as the food itself. And this where nurses can focus their care.
Drinking well results in:

- Psychological satisfaction. From time immemorial, and in all cultures, food & drink have been used to bring people together for celebrations as well as sad occasions. Food & drink binds people together and no wedding/funeral/birthday etc is complete without the presence of food & drink. It promotes a feeling of sharing and thus has a social function
- Drinking routines provide a temporal structure to the day, particularly helpful for those living with dementia.
- Ability to drink defines dependence.

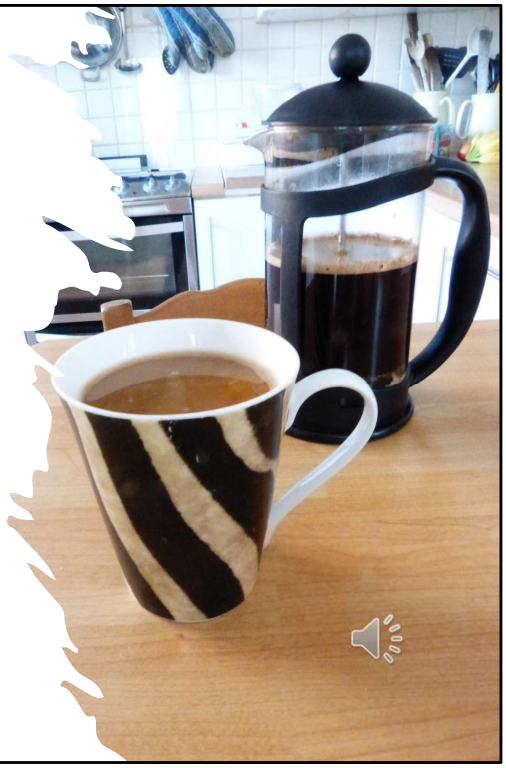
# Why do we Drink?

In order to help and support people to drink, we need to think more about why we drink. I have just given you some reasons on the previous slide, can you think of anymore?

# Why do we drink?

- Hospitality & friendship
- Reciprocity
- Rituals, habits & temporality
- To counteract boredom
- Celebrations
- Treats
- Sensory experience
- Stay healthy
- Prevent dehydration (Water as medicine)
- Thirst (but not older adults)

*Bunn, 2016; Jimoh et al, 2019*



These are some reasons why people drink, you may have thought of others. But as a nurse and carer, how can you use these reasons to help someone you are caring for to drink well?
Later on we will think about why people may find it hard to drink.


- I just want to talk for a minute about food and drink, and why they are different and why we need to think of them separately.
- Of course there are many similarities, but let's think of the differences.
- I am focusing on drinking today, but very often health professionals only talk about nutrition and malnutrition and *think* that they are covering *both* food and drink. But often the 'drink' part is forgotten. It is assumed that drinking is covered, but it really isn't.
- There is an assumption that if we get food into a person, that their drinks intake will be fine. In fact, carers very often prioritise food intake, and drinking is demoted.
- In this slide I have provided a very basic distinction between food and drink, but note the research which indicates that someone can be malnourished and remain hydrated and vice versa. Drinking and eating are not well correlated.

## Can we tell if an older person is dehydrated?
### Do clinical signs & symptoms of dehydration work?

Bunn & Hooper, 2019: https://doi.org/10.1016/j.jamda.2019.01.122
Hooper & Bunn. 2015. Nursing Times, 111(32/33), pp12-16.
Hooper et al, 2015: https://doi.org/10.1002/14651858.CD009647.pub2
Hooper et al, 2016: 10.3945/ajcn.115.119925

Why use these tests?

- Easy to use
- Minimally invasive
- Minimal equipment
- Minimal cost
- Minimal training
- Instant results
- We think they work!



- How can we tell if someone is dehydrated?
- Many carers and health professionals use these common signs and symptoms, such as dry mouth, asking about thirst, urine colour, skin turgor, capillary refill etc.
- We use them, because they are easy to use, don't harm the patient, they are cheap, don't need much specialist equipment or training, and we think they work.
- You will find them in most nursing & medical text books and healthcare websites.

# Dehydration Recognition in our Elders (DRIE)

JAMDA xxx (2019) 1–8

JAMDA

journal homepage: www.jamda.com

Original Study

Signs and Symptoms of Low-Intake Dehydration Do Not Work in Older Care Home Residents—DRIE Diagnostic Accuracy Study

Diane K. Bunn PhD [a,*], Lee Hooper PhD [b]

[a] School of Health Sciences, Norwich Research Park, University of East Anglia, Norwich, Norfolk, England, United Kingdom
[b] Norwich Medical School, Norwich Research Park, University of East Anglia, Norwich, Norfolk, England, United Kingdom

Serum osmolality: 'gold' standard

Bunn & Hooper, 2019: https://doi.org/10.1016/j.jamda.2019.01.122;
Hooper et al, *J Gerontol A Biol Sci Med Sci*, 2016. 71(10):1341-7; Hooper et al, 2016: 10.3945/ajcn.115.119925.
Hooper & Bunn. 2015. Nursing Times, 111(32/33), pp12-16.

We questioned whether these tests did actually work in older adults. We asked the question: how do we know these tests work in older adults? And we did a study in Norfolk with 188 care home residents aged >65 years to answer that question.
When you are finding out whether a test works, you always need to compare it to the best test available, the 'gold standard'.
In dehydration, the best test is serum osmolality, which can only be measured using venous blood and tested in a specialist medical laboratory. So not an everyday test!
Our 188 care home residents consented to have this blood test, and to also be examined by the researchers who asked about dry mouth, dry skin, thirst, took urine samples and a host of other tests. Look up the references if you would like the full details.

## Can we tell if an older person is dehydrated?
### Do clinical signs & symptoms of dehydration work?

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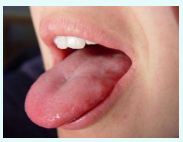
Why use these tests?

- Easy to use
- Minimally i
- Minimal eq
- Minimal cost
- Minimal training
- Instant results
- We think th

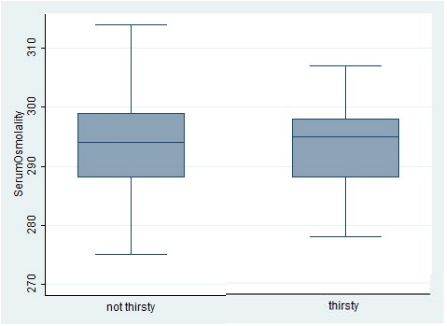

We found that NONE of the everyday clinical signs and symptoms have any ability at all to recognise dehydration in older adults.

Our conclusion is DO NOT use them!

# Thirst



No difference in serum osmolality for those who felt thirsty, and those who did not




*In other words……*

**Thirst is NOT a good indicator of dehydration in older people**

***and asking***

**'Are you thirsty?'**

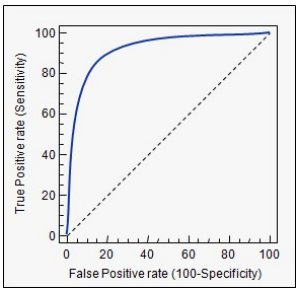
***is the wrong question!***

*Hooper et al, 2015: https://doi.org/10.1002/14651858.CD009647.pub2*
*Hooper et al. (2016): doi: 10.1093/gerona/glv205*
Hooper & Bunn. 2015. Nursing Times, 111(32/33), pp12-16.
*Bunn & Hooper, 2019: https://doi.org/10.1016/j.jamda.2019.01.122*

This graph shows the evidence for thirst, when compared to serum osmolality. There is no difference at all in serum osmolality (the gold standard for dehydration ) between those participants who said they were thirsty and those who said they weren't.
What this means for nursing practice is that asking an older adult if they are thirsty before giving a drink is the WRONG question! Say something else, like, "I'm making a hot drink, I'll get you one."

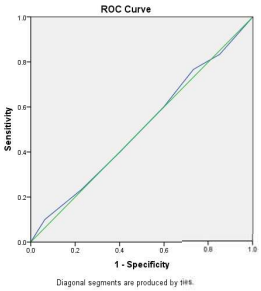
# Urine colour

- Area under the Curve (AUC) >0.7
- Diagonal line, zero discrimination




- Blue line - accurate diagnostic test
- Dotted line – point of no effect

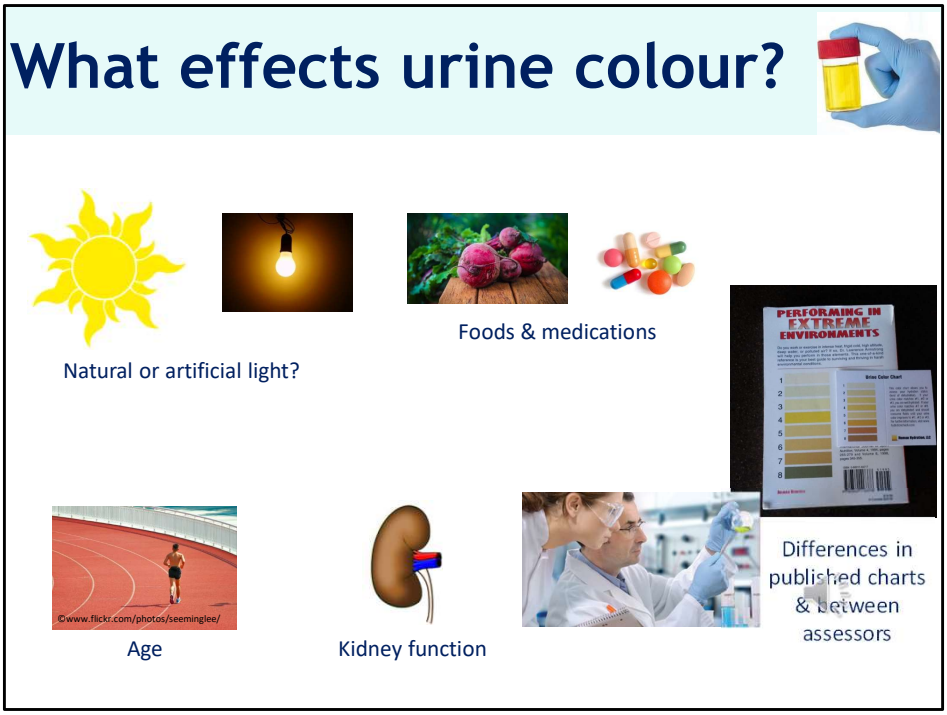
**Urine Colour, n=157**




$ROC_{AUC}$= 0.51 (95%CI: 0.39,0.62)

*Hooper et al, 2015: https://doi.org/10.1002/14651858.CD009647.pub2*
*Hooper et al, 2016: 10.3945/ajcn.115.119925*
Hooper & Bunn. 2015. Nursing Times, 111(32/33), pp12-16.
*Bunn & Hooper, 2019: https://doi.org/10.1016/j.jamda.2019.01.122*

One more slide to show the evidence for why urine colour is not a good indicator of dehydration either.
On the left, the blue curved line indicates a test that is good at its job. For example, a blood test for haemoglobin levels for detecting anaemia. The dotted line going diagonally across the graph is the 'point of no effect', ie the test is useless.
On the right of the slide is the chart for urine colour compared to serum osmolality (the gold standard), you can see that it follows the diagonal line very closely, indicating that urine colour is not in the least bit effective for identifying dehydration in older adults.




The reason that urine colour is not effective in older adults as a dehydration test is because we see colour differently in different lights and between different observers. Colour charts vary. Foods and medications effect urine colour, and also, as I have mentioned, kidney function deteriorates in older adults.

# Problems of using unreliable tests

***What does pale yellow urine colour tell us about whether an older resident is hydrated or not?***

- **Traditionally,** we would assume an older adult is well hydrated & there is no cause for concern, so care is just to confirm that they are drinking well
- **Now,** based on more current evidence, this is a false assumption, so this plan of care is inappropriate
- **Now,** as we know that 1 in 4 older adults are dehydrated – assume **All** older adults are at risk, so promoting drinking throughout the day is key

**Why should we question whether clinical tests of dehydration work, & does it matter?**

The evidence-base is constantly changing and so we should constantly re-appraise what we do in the light of new evidence & understandings
What's changed regarding dehydration?

- Definitions of dehydration
- Increased understanding of the physiology of dehydration
- Identification of serum osmolality as the gold standard
- Improvements in research methodology:
  studies examining diagnostic accuracy should be undertaken in the population in which they are to be used, rather than assuming that tests which are effective in other populations, such as young healthy men, will work as well in older and frailer care home residents.

- We also need to understand that inaccurate tests may cause harm. In this case, assessing urine colour, is a very low risk test in itself, BUT it's the way we interpret this and use it in our nursing care that is harmful.
- The take home message is, we should not be using clinical signs and symptoms of dehydration in our nursing care, but we do know that as 1 in 4 adults are dehydrated, we should treat EVERY older adult as high risk and ensure they drink well.

# Some other measures that are used

**Other measures used to assess *low-intake* dehydration:**

1. **Serum osmolality – the physiological measure & gold standard**
2. **Calculated serum osmolarity– good substitute**
   - Using routinely collected information (Na+, K+, glucose, urea)
   - But only one equation works: Khajuria & Krahn equation
3. **Plasma urea/creatinine – not very accurate**
   - Depends on effective kidney function, but dysfunction common as people age so does not correlate with serum osmolality
4. **Serum sodium – not very accurate**
   - Most older adults with dehydration had normal or slightly raised sodium

You may come across some other biochemical measures used to assess dehydration. Plasma urea/creatinine and sodium levels are not accurate for assessing low-intake dehydration.


Given that dehydration in older adults is common & harmful, but hard to detect, we need to work on the prevention, by helping people to drink well.


The best guidance as to what an older adult should drink is from the European Society for Clinical Nutrition and Metabolism (ESPEN). These are evidence-based and full details can be found in the references provided.
Children and adults from 15 upwards should drink 2l/day for men and 1.6l/day for women in a normal day and an ADDITIONAL 20% from foods. Obviously when hot or exercising, this needs to increase. Exceptions are those who have been medically advised to limit their fluid intake.

# It doesn't just have to be water!

Water is the main component of many different types of drinks!

Most importantly, it doesn't have to be water. Water is the component we need for our bodies, but how we obtain that water, in a variety of drinks, is personal preference.
Even low-alcohol drinks, such as beer are OK, as the water outweighs the alcohol content in small quantities, (but obviously too much beer is dehydrating!)

# What about fluid-rich foods?

Fluid-rich foods help, but there is simply **not** enough fluid in foods to supply all our drinks for the day

They do NOT replace drinking!

© Do We Need Fruit Antioxidants? - Diagnosis Diet

Try and avoid serving dry foods - think of ways to add fluid, such as gravy, custard, stews, lollies, jelly etc (helps swallowing & digestion too)

**Making Drinking Fun**
Activities & Engagement Toolkit

The following table shows how much fluid is in a serving of some of these wetter foods:

| Food type | Food | Serving size | Quantity of water (fluid) |
|---|---|---|---|
| Fruit | Apple | 1 whole apple, 80g | 60ml |
| | Apple juice | Small glass, 150ml | 130ml |
| | Pineapple chunks | 6 chunks, 80g | 70ml |
| | Pear | 1 whole pear, 80g | 60ml |
| | Banana | 1 whole banana, small, 100g | 50ml |
| | Grapes | 10-12 grapes, 80g | 50ml |
| | Orange or grapefruit | 1 small orange or ½ grapefruit, 80g | 60ml |
| | Other fresh fruit and berries | 80g | 60ml |
| Puddings (to be eaten at any time of the day) | Stewed fruit | Small bowl, 80g | 60ml |
| | Jelly made with water or milk | Small bowl, 100g | 80ml |
| | Blancmange | Small bowl, 100g | 80ml |
| | Ice-cream or sorbet | 1 scoop, 70g | 50ml |
| | Custard | [illegible] bowl (with fruit etc), 100g | 80ml |
| | [illegible] | [illegible] | 90ml |
| | [illegible] | [illegible] | 70ml |
| | [illegible] | [illegible] | 70ml |
| | [illegible] | [illegible] | [illegible] |
| Condiments (to add to foods to add fluid) | [illegible] | [illegible] | 30ml |
| | [illegible] | [illegible] | 80ml |
| | [illegible] | [illegible] | 20ml |
| | Crème [illegible] | [illegible] ed fruit, | 10ml |
| | Fromage frais | 1 pot of flavoured or several tablespoons of plain, 50g | 40ml |
| Breakfast foods (to eat any time of | Porridge, including instant & flavoured porridge made with milk or water | Small bowl (3 tablespoons) | 90ml |

**This table is from page 23 of DrinKit, Part 1:**
https://www.uea.ac.uk/groups-and-centres/uea-hydrate-group/drinkit

Just a word about fluid-rich foods. These are important alongside drinks, but we can never eat enough food to provide all our fluid content, so we always need to drink.

For a full list of fluid-rich foods, see the list in the DrinKit reference.

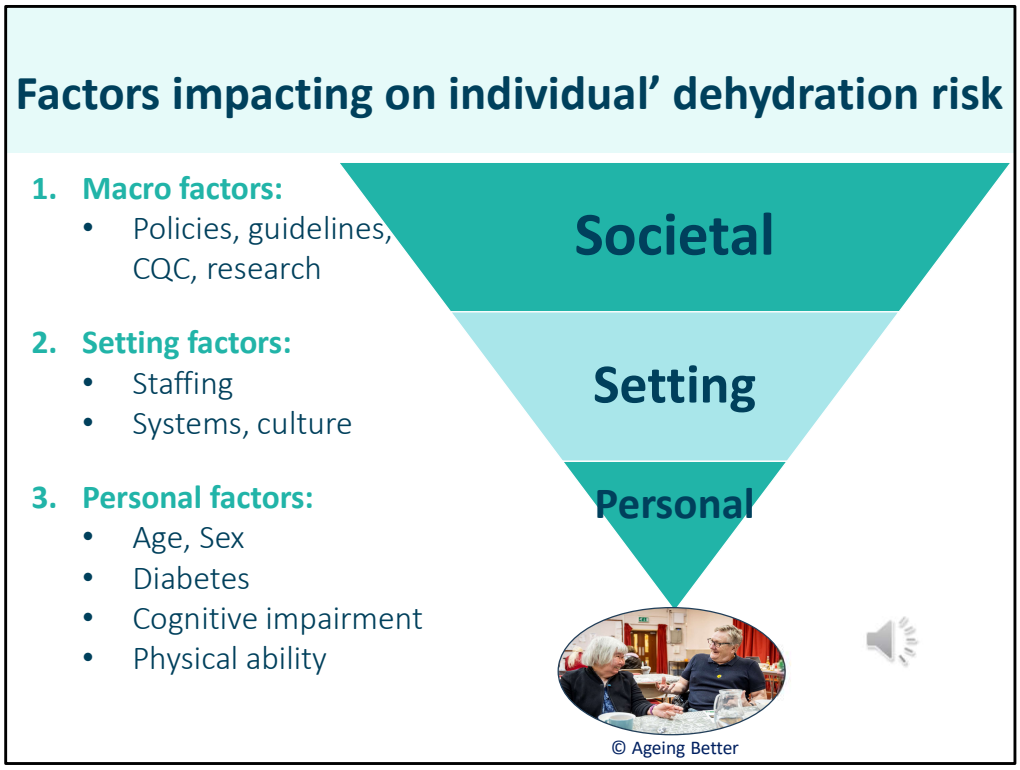
## What about popular jelly sweets?

- Approx 50ml water per sweet, so you would need to eat about 30-40/day to meet recommended daily fluid requirements!
- An example of one product:
  Box of 21: £31.50 + £4.95 shipping (total: £35.95) as at 29/04/25)

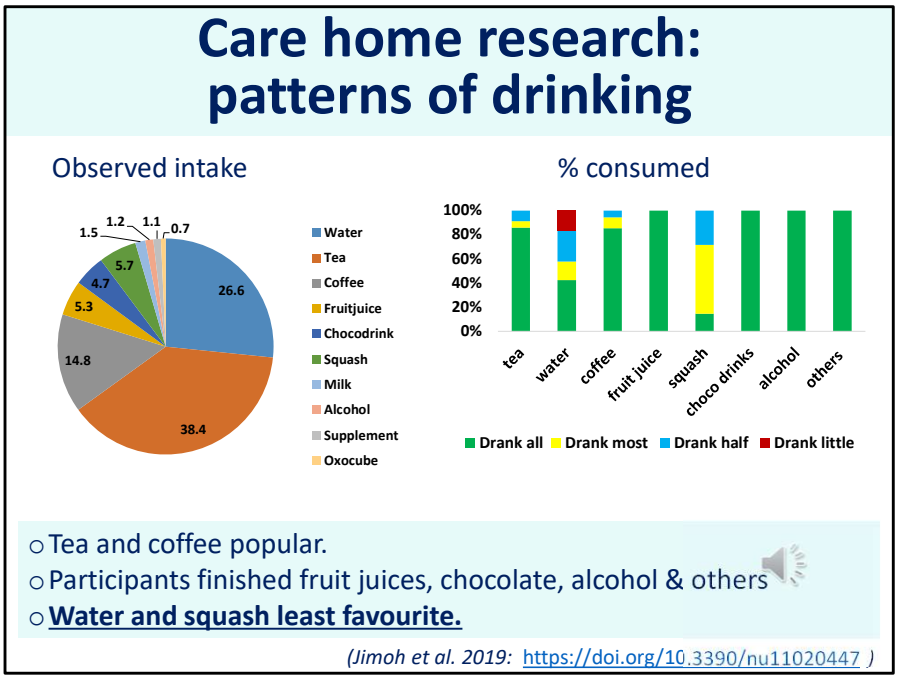
© https://www.freepik.com/free-photos-vectors/jelly-sweets

Similarly with jelly-type sweets – they do not provide enough fluid to meet our daily requirements unless you eat alot, and can you afford them!


We know that helping people to drink well is complex.

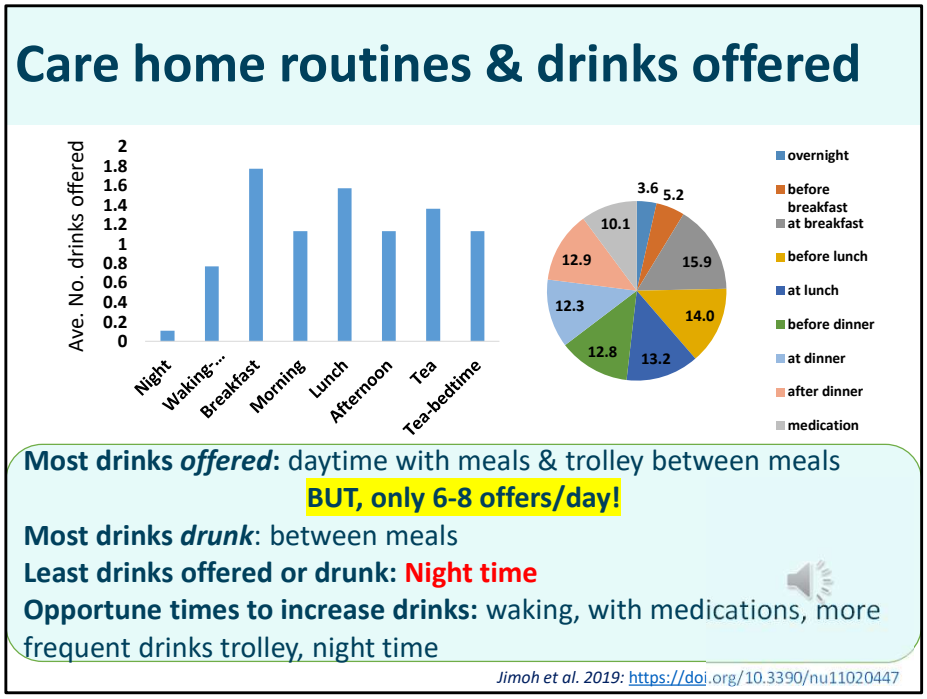



To help people to drink well, we need to understand the individual's needs, the settings in which they reside and the overarching research, policies and guidelines, including the CQC regulation 14 about ensuring those receiving care have adequate food and drink.
There are also many relevant policies providing more detailed guidance on how this should be achieved. See reference list at the end for further details.




- In a small study, we looked at how a care home's approach to providing drinks impacted on resident's drinking.
- The graph shows how much residents drank of the drinks that were offered. Green shows the most liked drinks, which were tea, coffee, fruit juices (not squash), chocolate drinks, alcohol and 'others'.
- We found that tea, water & coffee together accounted for approx. 80% of drinks intake. In other words, they were the most popular drinks.
    - BUT, whereas tea & coffee accounted for about 85% drunk of what was offered
    - Water, accounted for only 42%
- We also found that residents who drank enough and met recommended intake guidelines:
    - drank consistently
    - drank more water (the drink most accessible for independent drinking)
    - drank overnight
    - drank with meds

- The take home messages from this research for care are:
    - We drink more of the drinks we like!




We also observed that

- Most drinks were *offered* during the daytime with meals & on a drinks trolley between meals. BUT, only 6-8 offers/day! In other words, residents were not being *offered* enough to meet the recommended guidelines, and if they didn't drink all that was offered, they are already under-drinking.
- Most drinks were *drunk* between meals
- Fewest drinks were offered or drunk overnight.
- Missed opportunities for providing more drinks seem to be before breakfast, afternoons/early evenings and with meds. and

- The take home messages from this research for care are:
    - More frequent offers of drinks are needed, including more frequent drinks trollies because we drink more when drinks are offered, rather than being left to help ourselves

# Understanding each other's perspectives to better align care (focus group study)

**Carers & Nurses**

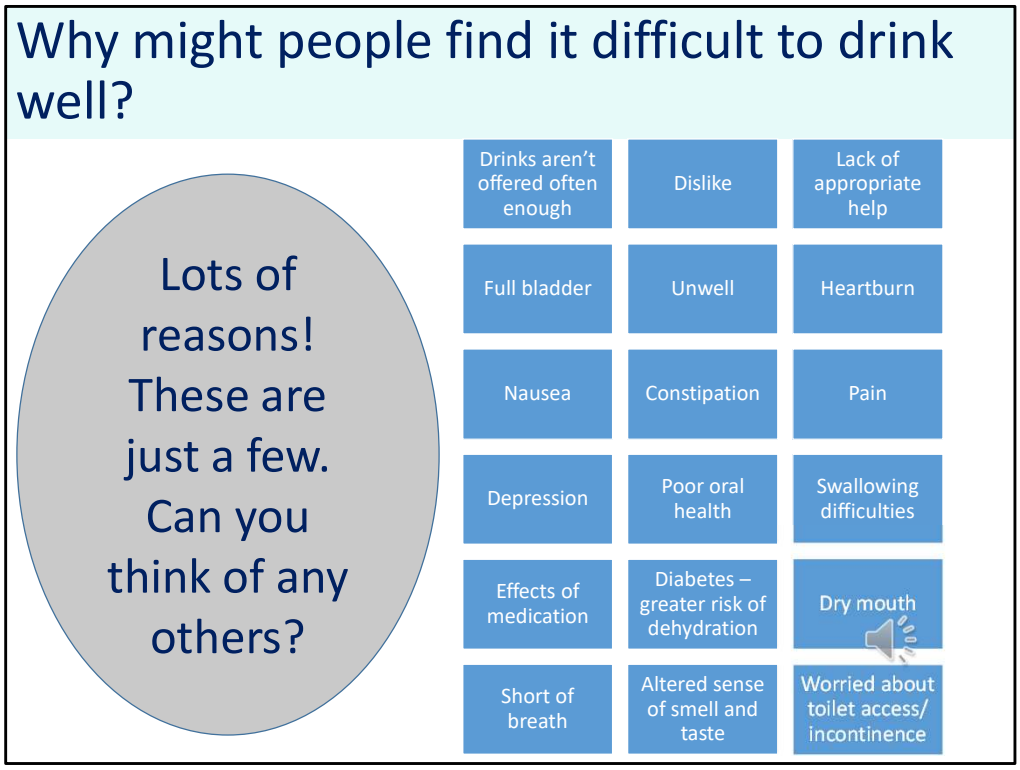
- Focus on preventing dehydration ('medical')
- Provide water regularly, and they always have access to squash

**Residents**

- Focus on enjoyment of drinking ('social')
- Dislike water left in jugs & not changed regularly.
- Like fresh water from the tap
- Not keen on squash, but will drink it if there

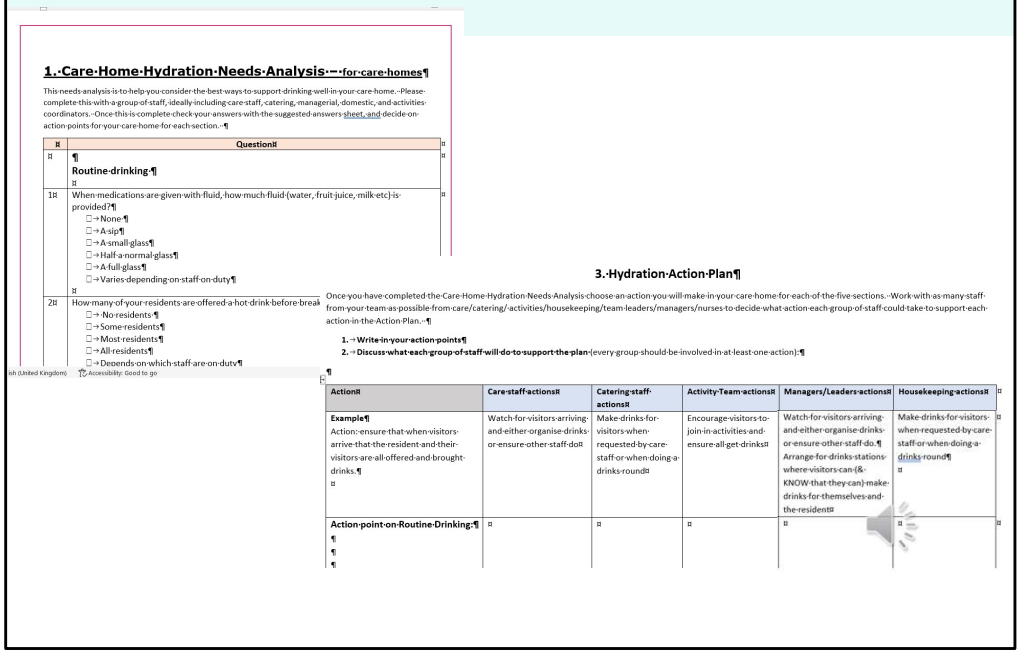
© Disagreement Can Be Healthy (linkedin.com)

- In this focus group study, we included care staff, their managers, residents and their families.
- They told us lots of interesting things, but I think this slide shows an important point, residents and their carers have different views about drinking and why they should drink.
- The take home message for care is that
    - if we can better align viewpoints, hydration care may be more effective.




There are many reasons why people do not drink enough. Some are listed here, Can you think of others?
Take time to think about how you might care for someone and support them to drink for each problem listed.

# Hydration Needs Analysis & Action Plan



1.·Care·Home·Hydration·Needs·Analysis·–·for·care·homes¶

This needs analysis is to help you consider the best ways to support drinking well in your care home. Please complete this with a group of staff, ideally including care staff, catering, managerial, domestic, and activities coordinators. Once this is complete check your answers with the suggested answers sheet, and decide on action points for your care home for each section. ¶

| | Question |
|---|---|
| | ¶ **Routine drinking** ¶ |
| 1 | When medications are given with fluid, how much fluid (water, fruit juice, milk etc) is provided? ¶ ☐ → None ¶ ☐ → A sip ¶ ☐ → A small glass ¶ ☐ → Half a normal glass ¶ ☐ → A full glass ¶ ☐ → Varies depending on staff on duty ¶ |
| 2 | How many of your residents are offered a hot drink before breal ☐ → No residents ¶ ☐ → Some residents ¶ ☐ → Most residents ¶ ☐ → All residents ¶ ☐ → Deepends on which staff are on duty ¶ |

3.·Hydration·Action·Plan¶

Once you have completed the Care Home Hydration Needs Analysis choose an action you will make in your care home for each of the five sections. Work with as many staff from your team as possible from care/catering/ activities/housekeeping/team leaders/managers/nurses to decide what action each group of staff could take to support each action in the Action Plan. ¶

1. → **Write in your action points** ¶
2. → **Discuss what each group of staff will do to support the plan** (every group should be involved in at least one action) ¶

| Action | Care staff actions | Catering staff actions | Activity Team actions | Managers/Leaders actions | Housekeeping actions |
|---|---|---|---|---|---|
| **Example** ¶ Action: ensure that when visitors arrive that the resident and their visitors are all offered and brought drinks. ¶ | Watch for visitors arriving and either organise drinks or ensure other staff do | Make drinks for visitors when requested by care staff or when doing a drinks round | Encourage visitors to join in activities and ensure all get drinks | Watch for visitors arriving and either organise drinks or ensure other staff do. ¶ Arrange for drinks stations where visitors can (& KNOW that they can) make drinks for themselves and the resident | Make drinks for visitors when requested by care staff or when doing a drinks round ¶ |
| **Action point on Routine Drinking:** ¶ ¶ ¶ | | | | | |

This would be your Hydration Needs Analysis and Action Plan.

## Refusing drinks

- Investigate possibility of any underlying reasons, eg sore mouth, dysphagia, nausea, full bladder, constipation, paranoia etc (see earlier slide)
- Drinks may be refused because they simply are not liked, so ensure preferences are adhered to, including tastes, textures, temperatures (drink) and shape, ease of holding (drinking vessel)
- Is help appropriate?
- Is there anything about the environment that is off-putting or distracting (noise, smells, etc)
- Does patient like/dislike a particular carer – change carers
- Try a social approach –have a drink and a chat together
- Don't nag!
- Try ½ hrly – you can't let someone refuse drinks for long

*Caroline Walker Trust, 2007*

I am going to mention two big reasons why someone may not drink well: refusing drinks and those living with dysphagia or swallowing problems. Read the slides carefully and try and think of any other actions that might be appropriate.

## Signs of dysphagia (swallowing problems)

**Signs & symptoms can vary, but commonly include**:

- Coughing when eating and drinking
- Inability to clear food or drink from the mouth
- Wet, gurgly voice
- Loss of drinks from the mouth/drooling
- Choking
- Pain or discomfort when swallowing
- Difficulty in controlling food and drink in the mouth.
- Trying to swallow one mouthful of food several times.
- Frequent throat-clearing.

*Royal College of Physicians, 2021*

This slide describes the common signs of dysphagia.

## Nursing care for people with dysphagia

- Any concerns – seek help from Speech & Language Therapists
- Positioning (sitting upright).
- Calm environment, few distractions.
- Discourage the person from distractions (such as talking or laughing with food in their mouth) because of the risk of choking.
- Slow the pace of drinking, providing adequate time for the person to swallow each mouthful before continuing.
- Small sips, often.
- Assist - but never force.
- Use verbal prompts and describe clearly the drink you are offering.
- The same carer should stay with the person throughout the meal.
- Maintain eye contact with the person who needs help, and carer should be sitting (not standing) either in front of or at the side of the person they are helping.
- Do not talk to someone else while offering drinks.
- Thickeners and drinking aids – but only on recommendation by SLT team (Speech & Language Therapists).
- The carer should sit at eye level, and either immediately in front of or slightly to one side of the person who needs help.

Whilst this slide describes some useful care approaches, which you can include in your care whilst waiting for a Speech & Language Therapist to fully assess.

# How much have you drunk so far today?

Initials:_____ Date:_____

**How much did *you* drink yesterday?**

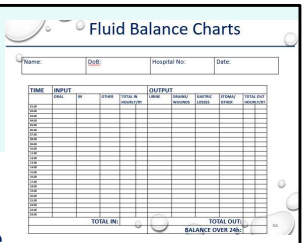
(i) Think about what you drank yesterday and complete the chart below.
(ii) Answer the questions beneath.
(iii) Then do the same for a resident you have cared for recently, using chart over the page

| What time did you drink? | What did you drink? | How much did you drink? |
|---|---|---|
| First thing in the morning | | |
| With breakfast | | |
| Between breakfast & lunch | | |
| With lunch | | |
| Between lunch & tea time | | |
| With your tea/evening meal | | |
| After your tea | | |
| Before bed | | |
| During the night | | |
| How much did you drink in Total? | | |
| How many different types of drinks did you have? | | |
| Did you eat anything that you think may be rich in fluids? If so, what? | | |

| Think about anything which helped you to drink or stopped you from drinking | |
|---|---|
| What helped you to drink? | |
| What stopped you from drinking? | |

A useful exercise to help consider some of the issues associated with providing hydration care is to think about your own approach to drinking. Think how much you drank in the last 24 hours, and compare that to the European Guidelines mentioned on a previous slide. Then consider what helped you to drink and meet the guidelines, or the factors that made it difficult for you to drink enough. Devise your own action plan if you need one!

# Measuring Drinks Intake




- Used ubiquitously, but notoriously inaccurate!
  - Lack of staff & patient knowledge about importance
  - Poor documentation practices, so recordings are inaccurate
  - Differences in charts between settings
  - Drinks offered are recorded, rather than a check of what was offered and then drunk
  - Not completed at the time, but as a 'catch up'
  - Partial recording over 24hr period
  - Lack of knowledge around cup volumes
  - Lack of involvement of patients
  - Incontinence


[1]*Jeyapala et al, 2015; u209890.w4102 doi: 10.1136/bmjquality.u209890.w4102*
[2]*Jimoh et al, 2015; J Nutr Health Aging. doi: 10.1007/s12603-015-0458-3*
[3]*Madu A, et al; BMJ Open Quality 2021;10:e001137. doi:10.1136/bmjoq-2020-001137*
[4]*Vincent M & Mahendiran T, 2015; u209885.w4087 doi: 10.1136/bmjquality.u209885.w4087*


- Measuring drinks intakes is very common nursing practice and most of you will be familiar with fluid balance charts.
- They are used ubiquitously, but are notoriously inaccurate, for the reasons listed here.
- Using these reasons, consider how you can improve the accuracy of Fluid Balance Charts in your clinical area.


One suggestion used in some ward areas and care homes is to accurately measure the fluid contained in the usual cups and glasses when full, half-full, nearly empty. Take pictures and create a poster, so that everyone can record drinks intake more accurately.
Everyone thinks they know how much a cup or glass holds, but do you really??!! Test yourself with a measuring jug and different sizes and shapes of drinking vessels.

# We've done the research, now what?!

Some of our projects and resources to support older people to drink well

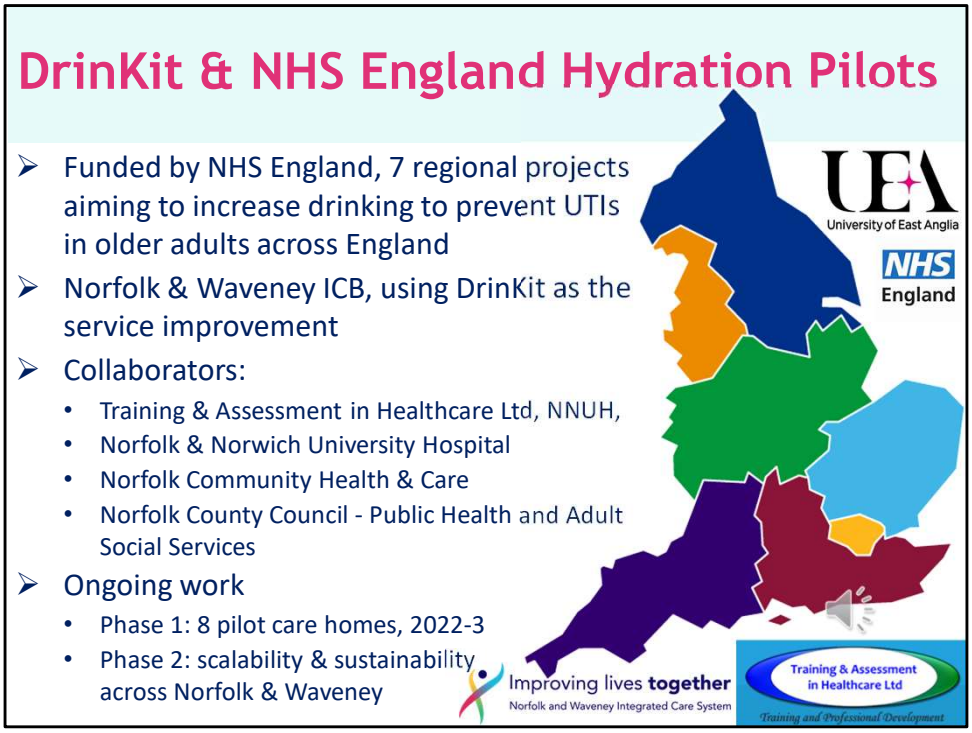

To end this PowerPoint, I am going to briefly describe some of the resources the UEA Hydrate Group have created and how you may access them and use them in your work and studies.


The DrinKit is a 4-part guide for helping older adults living in care homes to drink well. Whilst the focus is on those living in care homes, there is information there that could be applied to all adults, whatever their ages and wherever they reside.
We worked with carers, activity coordinators and residents to create this guide and it can be found on our UEA website, so do take a look – it is free!
The first part gives an introduction to drinking and hydration care. Then there are lost of ideas for an activities-approach to support drinking, making drinking interesting, enjoyable, sociable and tips on helping older adults understand why drinking is important.
Parts 2 – 4, whilst still available are covered by some updates which I will talk about on following slides.

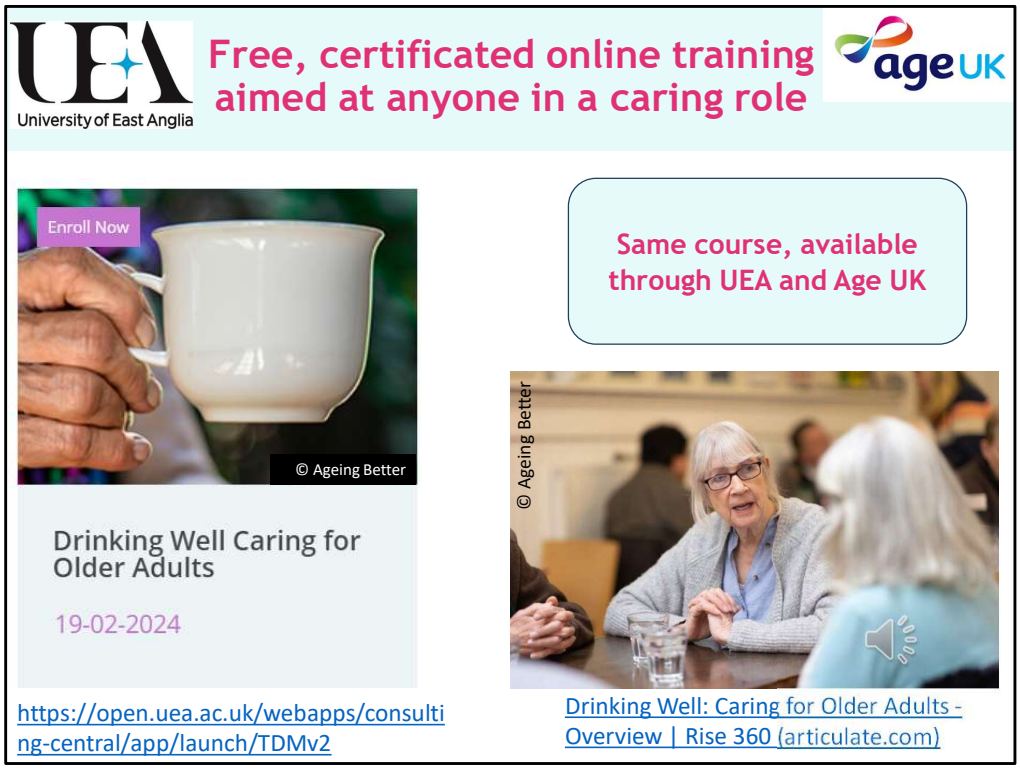

The DrinKit has been translated into Italian and Brazilian Portuguese and is being used in those countries.

File:Map of Brazil with flag.svg - Wikimedia Commons
Map of united kingdom with flag Royalty Free Vector Image (vectorstock.com)

Italy Map Outline with Italian Flag on White with Shadows 3D Illustration Stock Illustration | Adobe Stock




The DrinKit has also been used by the local ICB in a large care home project to support care homes in supporting their residents to drink well & reduce UTIs.




We have devised an introductory course on hydration and drinking well for anyone finding themselves in a caring role. The course can be found on the UEA website and Age UK. They are the same course, and both are free, although you will get a certificate if you do it through UEA! You can use this course for yourselves, your patients and their carers.

# Drinking Well at our Age: a community project

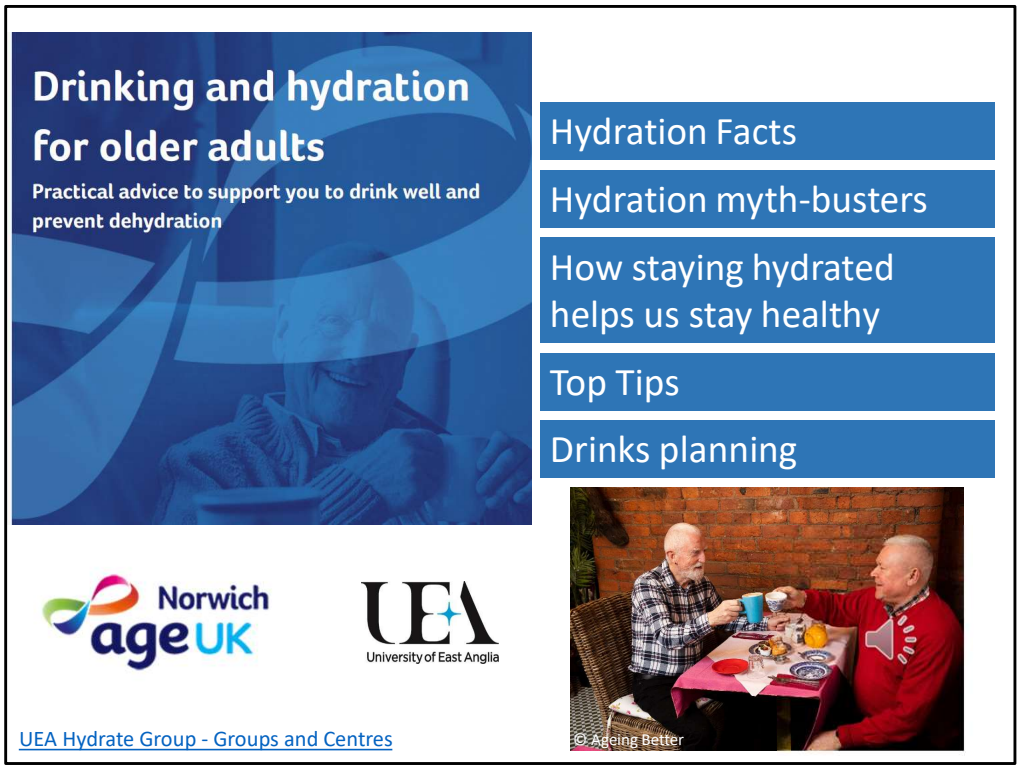
University of East Anglia

Hydration (ageuk.org.uk)

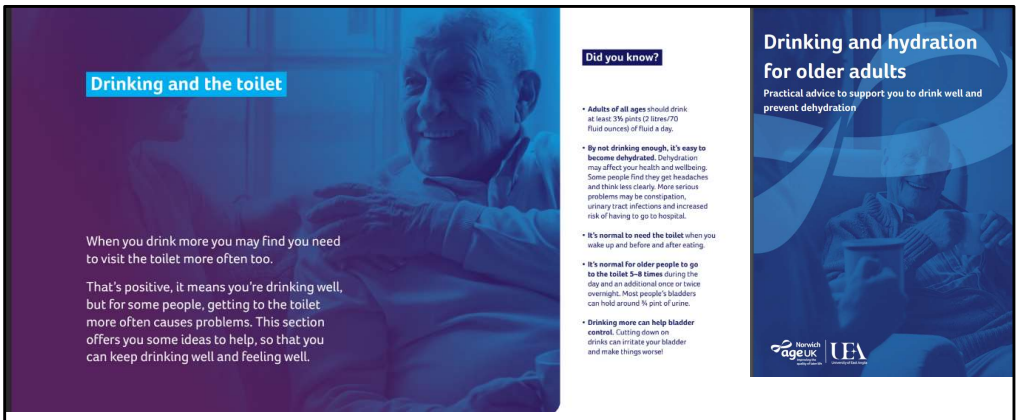

Norwich ageUK Improving the quality of later life

agefriendly Norwich

- We have also collaborated with Age UK Norwich to develop some resources for older adults. These can be found on their website, and includes a short (approx. 1 minute) video explaining the essentials.




The resource provides useful facts, top tips and some myth busting evidence-based advice about hydration.




## Drinking & the Toilet: how to make them work together

- Lots of top tips and advice in this leaflet
- Many people do not drink enough because they are worried about going to the toilet, but we have to pee – its NORMAL!!
- NORMAL to go to the toilet 5-6x per day and 1-2 at night
- NORMAL that older people find that they need to get to the toilet promptly, as bladder muscles & sphincter weaken
- Common bladder irritants, eg: caffeine, aspartame, nicotine, some meds. Effect ***some*** people, ***some*** of the time , but NOT all of the people all of the time!

Included in these resources is a useful leaflet addressing concerns about the toilet and the worries people have of drinking and then needing the toilet.
As I said before, we have to pee! This leaflet describes what is normal, and tips on how we can help those worrying about the toilet.

## To sum up….

- 1 in 4 older adults are dehydrated at any single time
- Water – essential for life ('physiology')
- Drinking – basic human function ('psychosocial')
- As simple tests are not reliable for assessing hydration we need to encourage drinking
- Adult men aim to drink at least 2L of fluid each day, women 1.6L
- Dependency means drinking becomes a supported activity
- Supporting older adults to drink well is complex! Multifactorial approaches needed at organisational & individual levels.

Some of the approaches required are summed up here on this slide – informed by systematic review and other research evidence.

# Some of our care homes research: strategies to support drinking well

One size does not fit all! Need lots of approaches

- Providing drinks frequently
- Providing choice & range of drinks, the way they are made & served, & checking in regularly in case tastes change
- Ensuring drinks are accessible
  - Can they see & recognise the drink as a drink? Can they hold the cup/glass?
- Appropriate support with both drinking and toilet/continence care and dysphagia
- Pleasant environment
- Drink together – drinking is a social activity
- Hydration care knowledge for all staff – whole home approach
- Increased offers
- Appropriate staffing ratios

*(Abdelhamid et al, 2015; Bunn et al., 2016; Cook et al., 2019; Towers et al, 2020; Volkert et al, 2022 & 2024)*

Key approaches are listed here.


…if you like a poster, this can be found on the internet and is free to download, or devise your own!

Thank you!


**Every sip counts!**

# Acknowledgements

**For all the studies, we would like to thank:**

- All participants, particularly residents, families, staff
- Care home managers and staff
- Steering & Advisory Groups
- All collaborators, particularly:
  - ICB staff
  - Age UK Coaches
  - UEA Staff & Students (UG, PGT, PGR)
- Funders:
  - NIHR
  - Dunhill
  - UEA Impact Fund
  - Age UK Norwich

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## For full list of references & study details of our research, please visit our UEA people pages and websites

Lee Hooper — University of East Anglia (uea.ac.uk)

Diane Bunn — University of East Anglia (uea.ac.uk)

University of East Anglia


UEA Hydrate Group - Groups and Centres


https://www.uea.ac.uk/research/explore/enhancing-hydration-care-in-care-homes


https://www.uea.ac.uk/web/about/school-of-health-sciences/research/projects/improving-drinking-for-people-living-with-dementia-in-care-homes

# Useful resources *[accessed January 2026]*

1. Malnutrition Task Force: https://www.malnutritiontaskforce.org.uk/about-us
2. Food Train: https://www.thefoodtrain.co.uk/
3. DrinKit: https://www.uea.ac.uk/groups-and-centres/uea-hydrate-group

# UEA Hydrate Group Blogs:

- 2024: The Outstanding Society: Episode 3 - Claire Goodman and Diane Bunn | The CREDtalk's Podcast (podbean.com)
- 2023: UEA News re Ellice's posters: https://www.uea.ac.uk/news/-/article/uea-researchers-launch-campaign-to-reduce-dehydration-among-over-65s
- 2023: BBC Radio Norfolk interview: https://www.bbc.co.uk/sounds/play/p0g39d6z?partner=uk.co.bbc&origin=share-mobile (fast forward to about 2 hours 40 mins)
- 2023: NIHR Dementia Forum Podcast: https://www.dementiaresearcher.nihr.ac.uk/podcast-thirst-for-knowledge-hydration-dementia/.
- 2023: British Society Gerontology Care Homes Research Special Interest Group blog: https://bsgsigcarehomesblog.co.uk/

- New Scientist article, September 2023:

  Cox D 2023. Thirsty work Drinking is essential for life, but if you find plain water too boring, there are many alternative drinks that promise optimal hydration or other benefits. How do they measure up? New Scientist 09/09/2023

# UEA Hydrate Group Blogs:

- 2022: Introducing the D-DRINC Study – how do people living with dementia drink in care homes? (NIHR ENRICH), https://enrich.nihr.ac.uk/blogpost/introducing-the-d-drinc-study-how-do-people-living-with-dementia-drink-in-care-homes/
- 2022: Hydration for Health, Early Career Researcher Award (Ellice), https://www.hydrationforhealth.com/en/hydration-science/conference-series/conference-series-list/early-career-researcher-award-2022-replay/
  *(NB: Ellice presented her early findings at this conference, whilst her analyses were still ongoing, so her final findings are slightly different)*
- 2022: Dementia Essentials – Hydration, Good Lighting and Great Care (Dementia Research Charity Chatathon), https://www.youtube.com/watch?v=JGdzh3diifw
- 2021: Preventing dehydration: Supporting care home residents to drink well, https://www.openaccessgovernment.org/preventing-dehydration-supporting-care-home-residents-to-drink-well/121914/.
- 2020: Ellice, NIHR Profile, https://arc-eoe.nihr.ac.uk/ellice-parkinson
- 2016: Thinking about Drinking (NIHR enrich), https://enrich.nihr.ac.uk/blogpost/thinking-about-drinking/.

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