

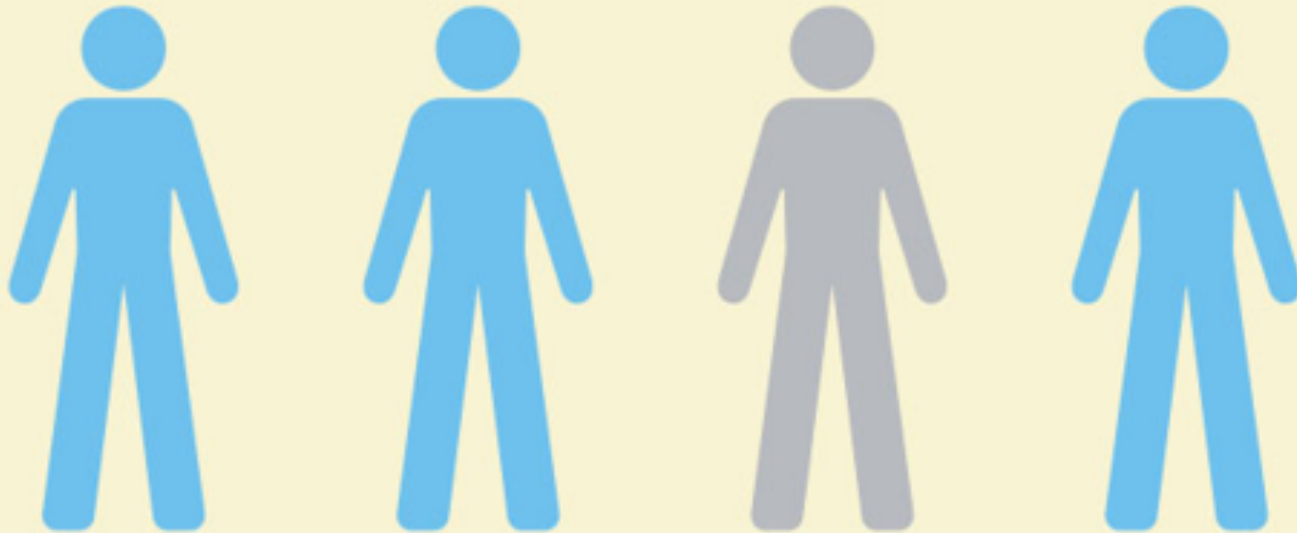
Drinking Well at our Age: a community project

Diane Bunn (UEA) & Abbie Parish (Age UK)

06/11/2023

1 in 4 older people are dehydrated

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

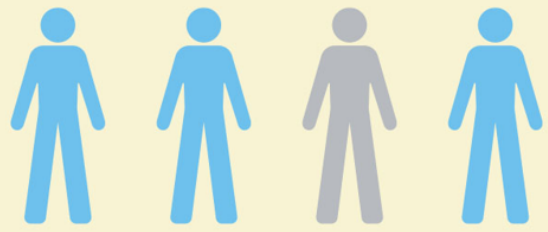


- Same for all older people, whether living at home or in a care home (we are still working on precise figures for hospitalised older people)
- In our research, a very wide range, from 0-89%.
- What this means is that dehydration is highly preventable

Ellice's Posters, free to download

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

Did you know that 1 in 4 older people are dehydrated?



Our research found that 1 in 4 non-hospitalised people aged 65 years and older, are dehydrated from not drinking enough¹.

To prevent dehydration, you should **drink at least 2L or 3.5 pints** of non-alcoholic drinks a day:

Dehydration is linked with kidney problems, diabetes, memory problems, UTI's, infections, pressure sores, dizziness, falls, confusion and headaches.

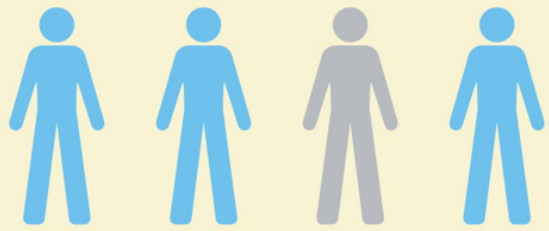


NIHR | Applied Research Collaboration East of England



¹Parkinson, Hooper, Fynn et al., (2023) Low-intake dehydration prevalence in non-hospitalised older adults: systematic review and meta-analysis *Clinical Nutrition*. <https://doi.org/10.1016/j.clnu.2023.06.010>

Did you know that 1 in 4 older people are dehydrated?



Our systematic review and meta-analysis found that 1 in 4 non-hospitalised people aged 65 years and older, are dehydrated from not drinking enough¹.

Older people are more at risk of dehydration, due to physiological changes associated with ageing, and feeling less thirsty. To prevent dehydration, adults should **drink at least 2L or 3.5 pints** of non-alcoholic drinks a day:

Research has shown that dehydration cannot accurately be assessed in older people using common signs, such as urine colour, skin turgor, sunken eyes etc. **Instead, we must encourage drinking!**

Dehydration is linked with kidney problems, diabetes, memory problems, UTI's, infections, pressure sores, dizziness, falls, confusion and headaches.



NIHR | Applied Research Collaboration East of England



¹Parkinson, Hooper, Fynn et al., (2023) Low-intake dehydration prevalence in non-hospitalised older adults: systematic review and meta-analysis *Clinical Nutrition*. <https://doi.org/10.1016/j.clnu.2023.06.010>

For the General Public

For Health & Social Care Professionals

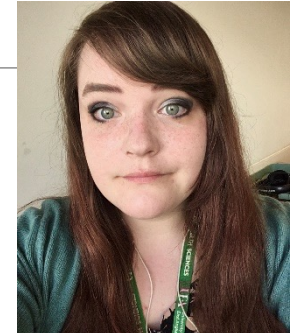
UEA Hydrate Group



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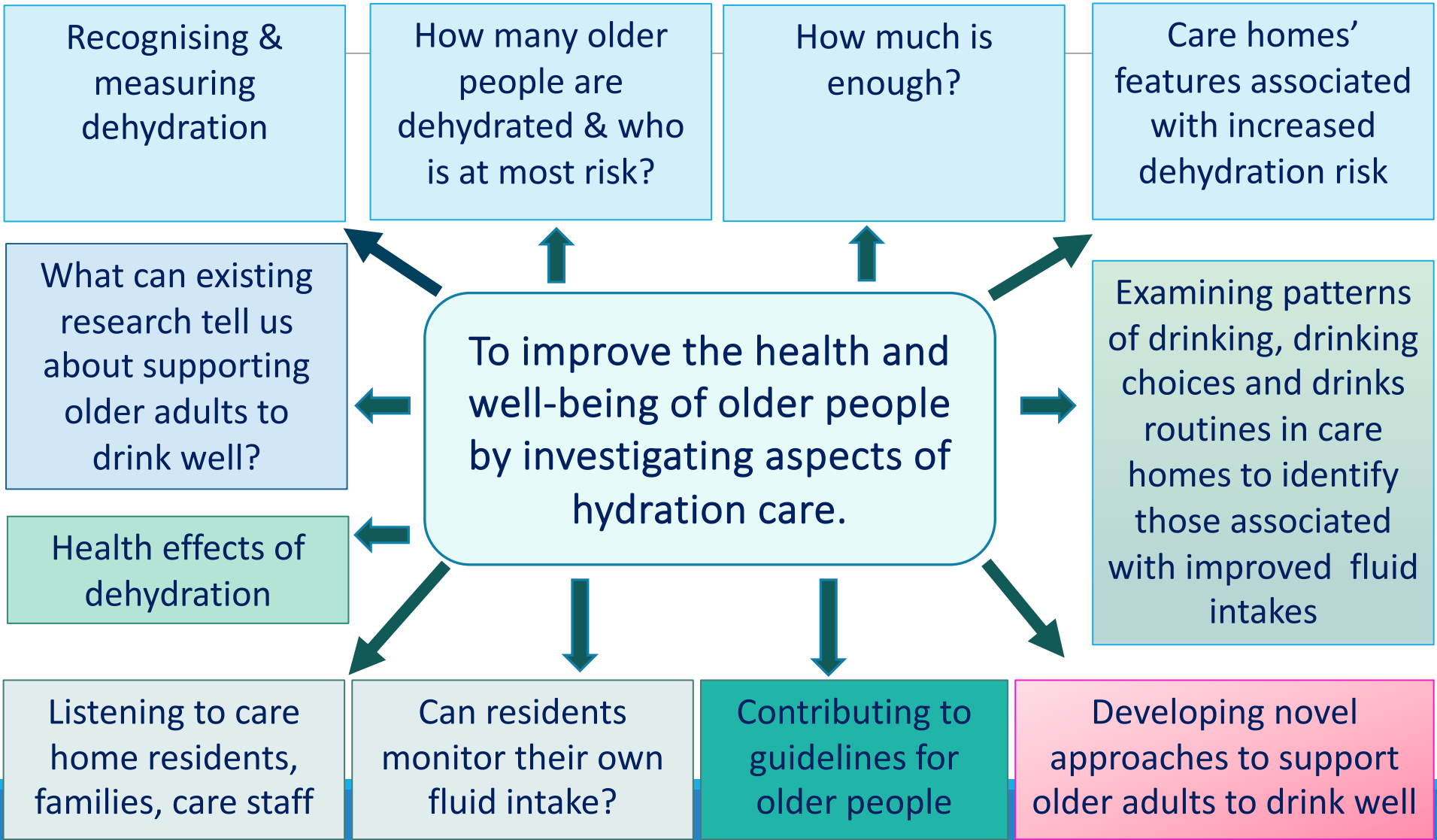
Florence Jimoh
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Associate



Advisory & Steering Groups

Residents, staff, families from care homes in
Norfolk & Suffolk; UEA Staff & Students

UEA Hydration Care Research



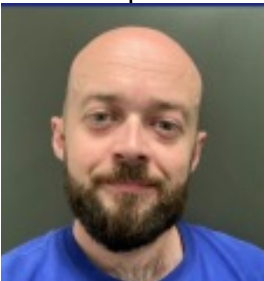
AGE UK Norwich Hydrate Group



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UEA Age UK Norwich Collaboration

Drinking well at our Age
(in the community)

Service improvement project with Age UK Norwich:
Supporting vulnerable older adults to drink more

Creating materials to support Age UK Norwich in
delivering the hydration elements of its Health
Coaching and Age Healthy Norwich programmes



Our Mission Statement

As an independent charity in Norwich, our mission is to improve the quality of later life by working with our residents to create an age friendly and inclusive city where they can thrive, supported by opportunity and services that enhance and protect their health and wellbeing.

We will do this by:

- **Providing support and opportunities:** Giving people support and opportunities that enable them to live healthy and connected lives.
- **Targeting and tackling inequalities:** Tackling inequalities that reduce life expectancy and quality of life.
- **Advocating the use of Age Friendly Principles:** Promoting the World Health Organisation Age Friendly Principles in the design of the city, its services and culture.
- **Being a champion for people aged 50+:** Listening to residents and championing their views with policymakers for improvements that are inclusive and supportive of ageing.

Our Services

We offer a wide range of services that enable us to support people holistically across different presenting needs.

[Our Prospectus](#) provides in-depth details of each service that we offer, including Information and Advice, Complex Community Support, Health Coaching, Clubs, Befriending and Age Healthy.

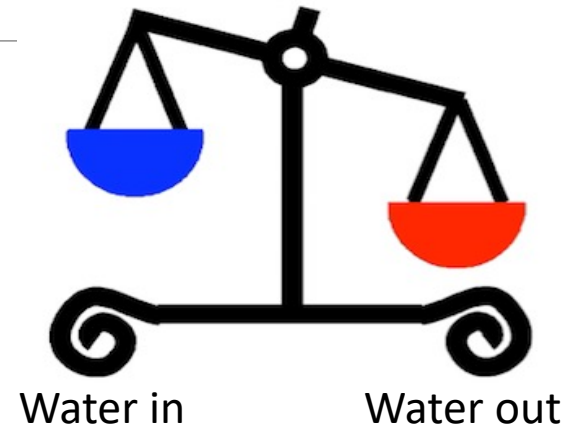


[Age UK Norwich Prospectus](#)

Dehydration Definitions & Guidelines

➤ **Low-intake dehydration**

- we don't drink enough to replace our normal fluid losses (ie. sweat, respiration, urine, faeces)



Low-intake is the most common type in older adults

2. **Salt loss dehydration (hypovolaemia)**

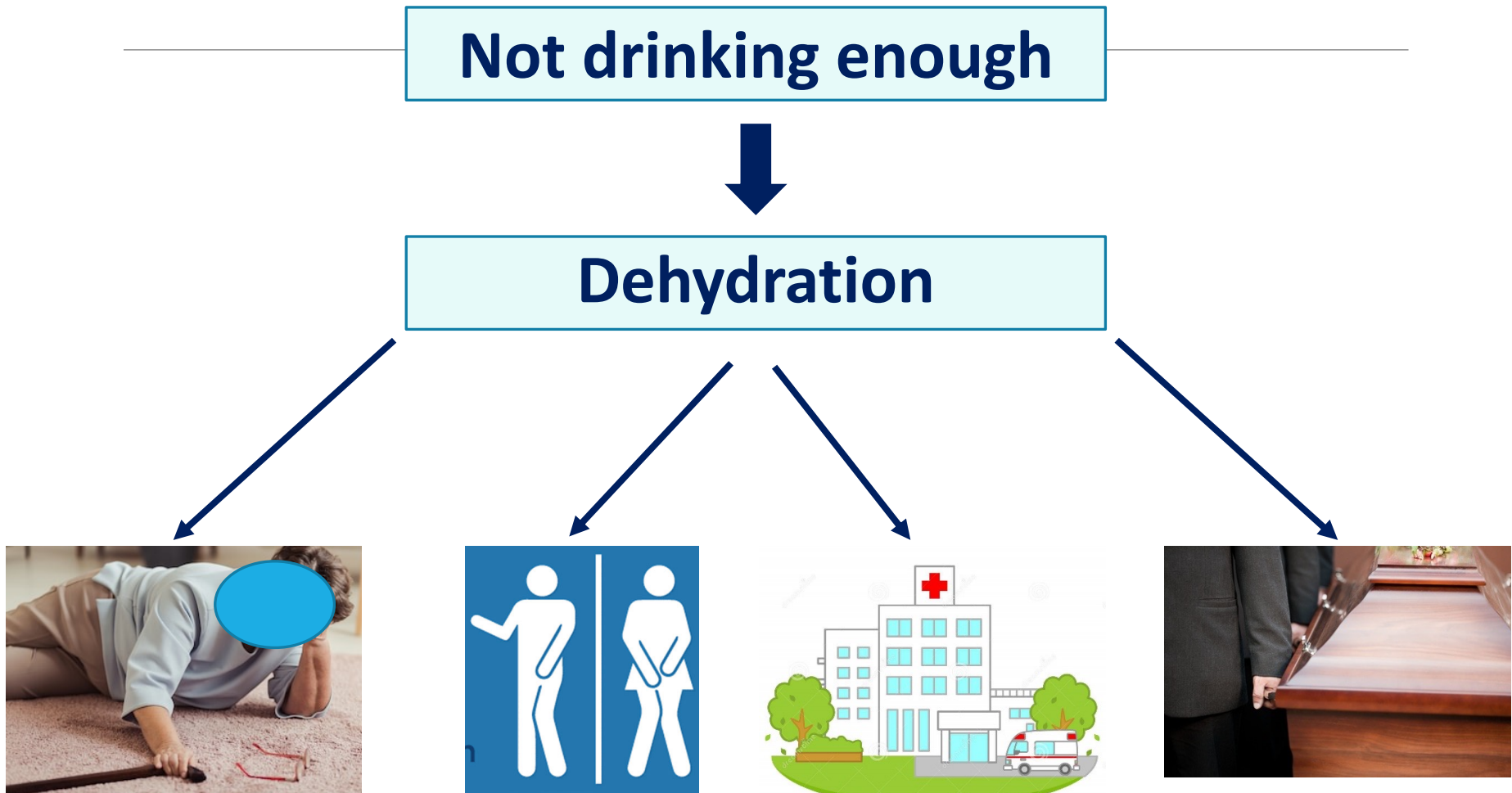
- different causes and management
- due to both a salt & water deficit
- occurs in diarrhoea, vomiting or excess sweating

Why do we need to drink?

- Water is essential for life.
- Major component of body fluids such as blood, tears, saliva, urine, faeces, lubricates joints.
- Lots of benefits!
 - helps swallowing, digestion & waste removal, preventing constipation & UTIs.
 - Medication efficacy: swallowing, absorption, transportation
 - Helps us focus, stay alert & gives us energy
 - Helps fight infections (UTIs, chest infections)
 - When drinking with others, helps wellbeing



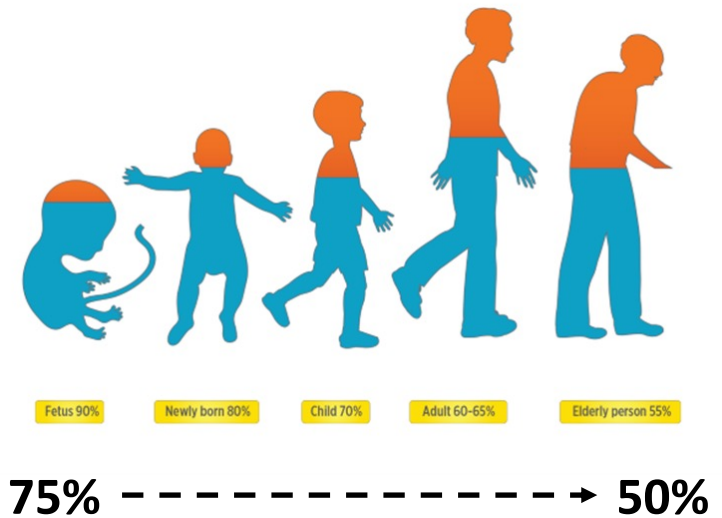
Dehydration is bad for our health



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

Why are older people at risk of dehydration?

Physiological changes
Physical frailty
Cognitive frailty
Reduced social contact
Behavioural & psychological



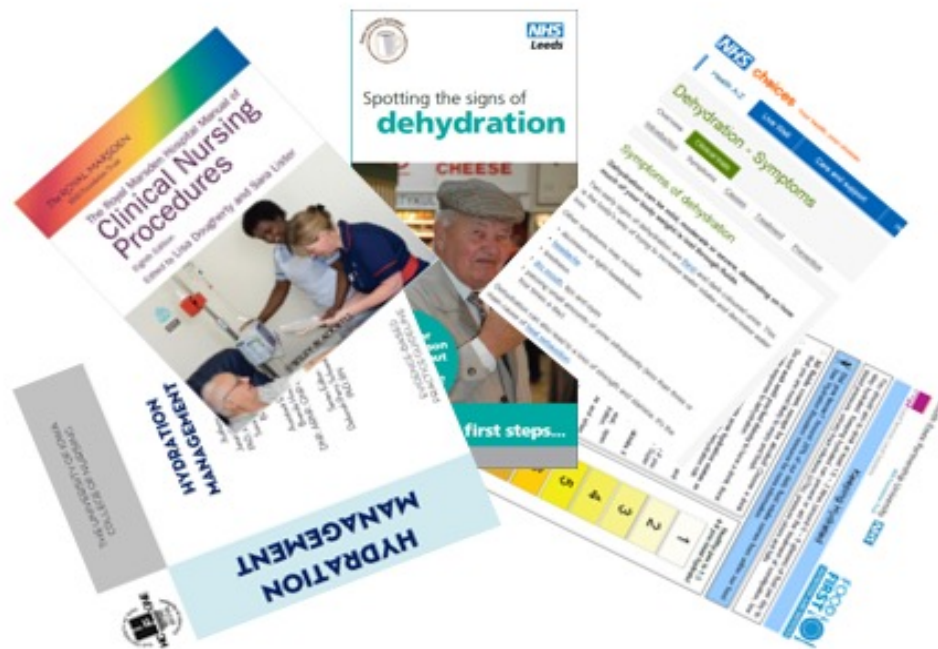
Bunn D et al (2019) Effective hydration care for older people living in care homes. *Nursing Times* [online]; 115: 9, 54-58
Hooper et al (2014) <https://doi-org.uea.idm.oclc.org/10.1016/j.mad.2013.11.009>.

Can we tell if an older person is dehydrated?

Do clinical signs & symptoms of dehydration work?

Why use these tests?

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



I'm thirsty



#ADAM



Serum osmolality

Serum osmolality:
'gold' standard



“The primary indicator of hydration status is plasma or serum osmolality”

Can we tell if an older person is dehydrated?

Do clinical signs & symptoms of dehydration work?

Hooper et al, 2015: <https://doi.org/10.1002/14651858.CD009647.pub2>

Hooper et al, 2016: [10.3945/ajcn.115.119925](https://doi.org/10.3945/ajcn.115.119925)

Bunn & Hooper, 2019: <https://doi.org/10.1016/j.jamda.2019.01.122>

Why use these tests?

- Easy to use
- Minimally invasive
- Minimal equipment
- Minimal cost
- Minimal training
- Instant results
- We think that's why



I'm thirsty



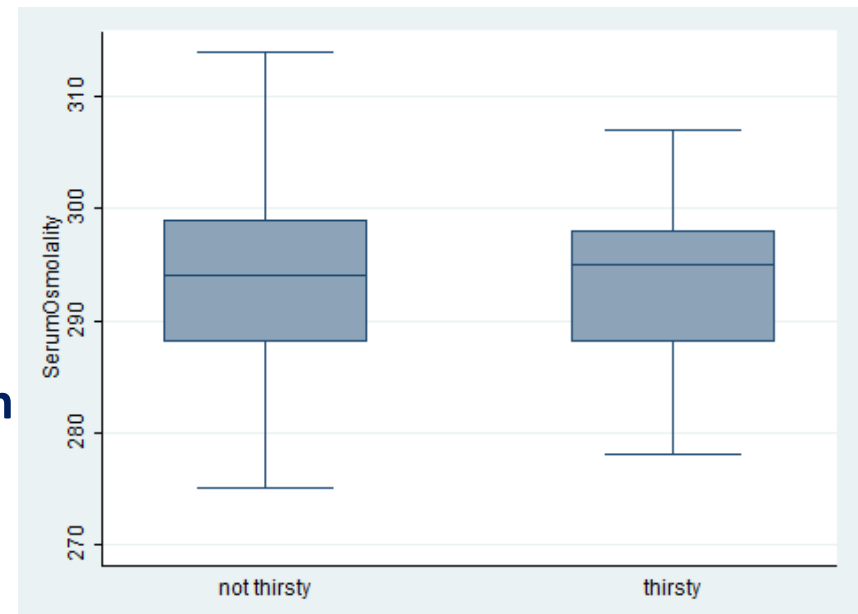
Thirst



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



Hooper et al, 2015: <https://doi.org/10.1002/14651858.CD009647.pub2>

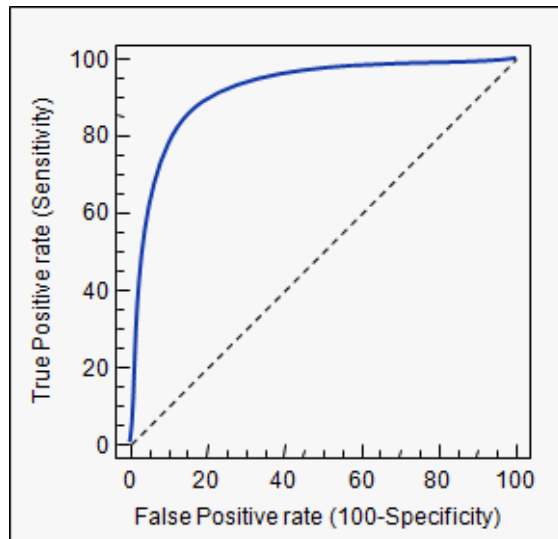
Hooper et al. (2016): doi: 10.1093/gerona/glv205

Bunn & Hooper, 2019: <https://doi.org/10.1016/j.jamda.2019.01.122>

Urine colour

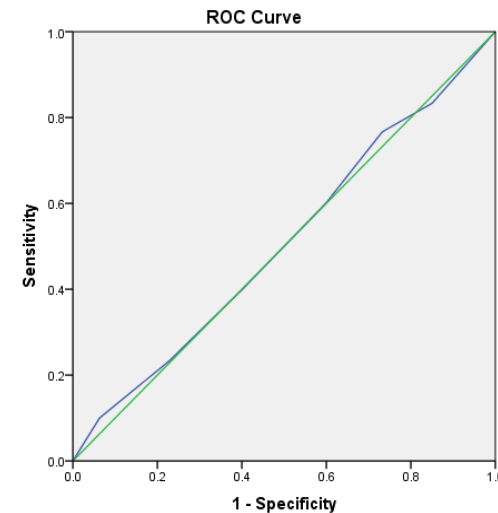


- Area under the Curve (AUC) >0.7
- Diagonal line, zero discrimination



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

Urine Colour, n=157



Diagonal segments are produced by ties.

$ROC_{AUC} = 0.51$ (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](https://doi.org/10.3945/ajcn.115.119925)

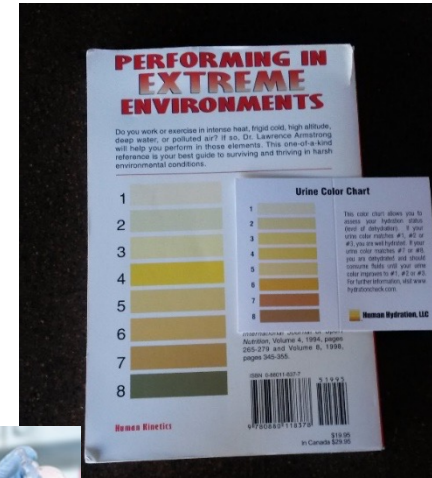
Bunn & Hooper, 2019: <https://doi.org/10.1016/j.jamda.2019.01.122>

What effects urine colour?

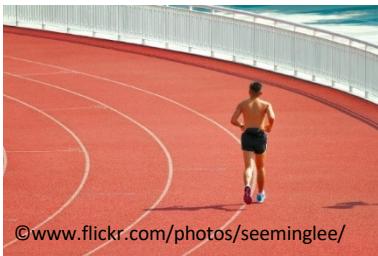


Foods & medications

Natural or artificial light?

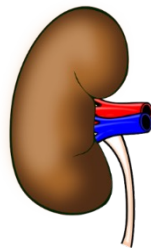


Differences in published charts & between assessors



©www.flickr.com/photos/seeminglee/

Age



Kidney function



Problems of using unreliable tests

Urine colour is pale yellow

Assume older adult is well hydrated & there is no cause for concern, so care is just to confirm that they are drinking well



Based on more current evidence, this is a false assumption, so this plan of care is inappropriate

As 1 in 4 older adults are dehydrated – assume all older adults are at risk

**Given it is hard to
tell whether an older
person is
dehydrated....**

**How can we
prevent
dehydration?**

Drinking!



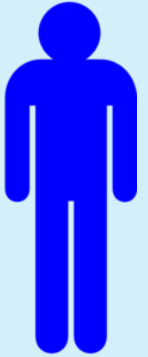
Recommended Fluid Intakes

Volkert, et al., 2019: <https://doi.org/10.1080/07853890.2019.1628352> (ESPEN Guideline)

Older adults who may need to drink less than these recommendations:

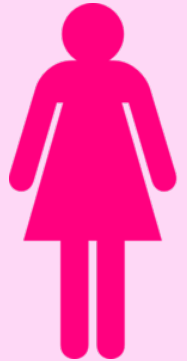
- Heart failure,
- Renal failure,
- Anyone told by their doctor to limit fluid intake

At least 2.0 litres
from drinks
every day



+
additional
20% from
food

At least 1.6 litres
from drinks
every day



It doesn't just have to be water!

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



UEA Age UK Norwich Collaboration

Drinking well at our Age
(in the community)

Service improvement project with Age UK Norwich:
Supporting vulnerable older adults to drink more

Collaborative approach, involving older people, their families,
Age UK Health Care Coaches & UEA Researchers

Creating materials to support Age UK Norwich in
delivering the hydration elements of its Health Coaching and Age
Healthy Norwich programmes

What is Health Coaching?



- Weekly physical activity sessions for 6-12 weeks, within a clients home with a qualified physical activity instructor.
- Sessions are personalised to the patients health or recovery goals i.e. strength & balance, mobility & flexibility
- We can offer further support from our wide range of services, ensuring our clients have what they need. E.g. Complex care/ I&A
- We can also help our patients by helping them to find local opportunities for ongoing support. A high number of our patients are lonely and isolated, so guiding them to either our own or outside groups is essential (when requested).
- Activity diary – helps to look at their nutrition/hydration and gives an insight to their mental health.
- Hydration brochure – this allows us to educate, advise and help our clients with their hydration intake.

Methods

Eligibility

- Adult aged 60+ & **not** advised to restrict fluids (eg CCF, CKF)
- Receiving coaching from one of Age UK Norwich's coaching programmes or
- attending one of the Age UK Norwich clubs and groups (football, dancing, walking etc) for support or
- had coaching or attended clubs within the past 6 months

Healthcare Coaches introduce project to older adults & ask consent to pass names to UEA Knowledge Exchange Associates (KEA)

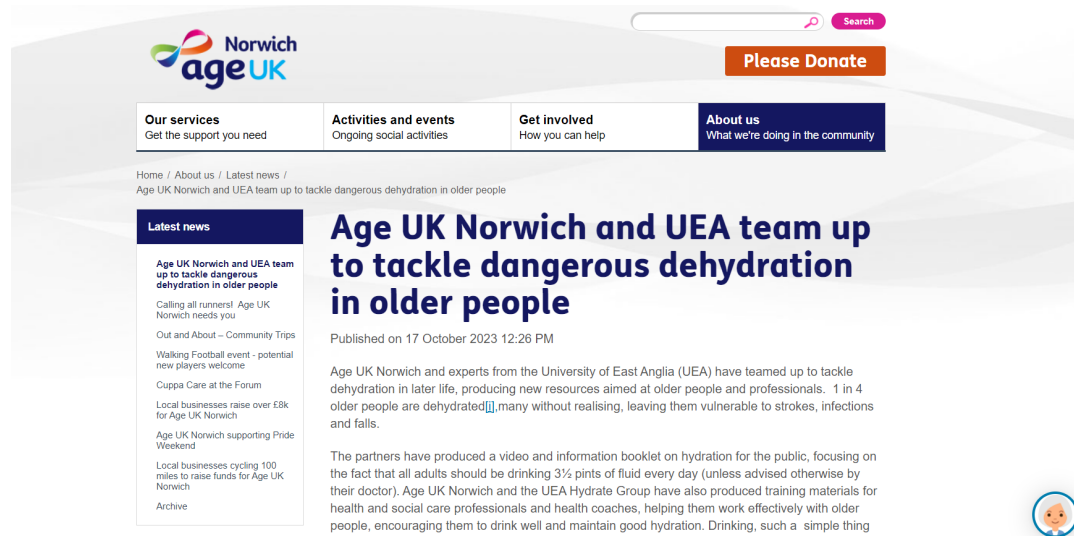
UEA Knowledge Exchange Associates visit:


- talk about hydration
- discuss types of materials that would be helpful to support drinking
- materials refined based on feedback

Further discussions with UEA KEAs to seek feedback and further refinement



<https://www.ageuk.org.uk/norwich/our-services/hydration/>





[Please Donate](#)

Our services Get the support you need	Activities and events Ongoing social activities	Get involved How you can help	About us What we're doing in the community
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Home / About us / Latest news / Age UK Norwich and UEA team up to tackle dangerous dehydration in older people

Latest news


- Age UK Norwich and UEA team up to tackle dangerous dehydration in older people
 Calling all runners! Age UK Norwich needs you
 Out and About – Community Trips
 Walking Football event - potential new players welcome
 Cuppa Care at the Forum
 Local businesses raise over £8k for Age UK Norwich
 Age UK Norwich supporting Pride Weekend
 Local businesses cycling 100 miles to raise funds for Age UK Norwich
 Archive

Age UK Norwich and UEA team up to tackle dangerous dehydration in older people

Published on 17 October 2023 12:26 PM

Age UK Norwich and experts from the University of East Anglia (UEA) have teamed up to tackle dehydration in later life, producing new resources aimed at older people and professionals. 1 in 4 older people are dehydrated, many without realising, leaving them vulnerable to strokes, infections and falls.

The partners have produced a video and information booklet on hydration for the public, focusing on the fact that all adults should be drinking 3½ pints of fluid every day (unless advised otherwise by their doctor). Age UK Norwich and the UEA Hydrate Group have also produced training materials for health and social care professionals and health coaches, helping them work effectively with older people, encouraging them to drink well and maintain good hydration. Drinking, such a simple thing



<https://www.ageuk.org.uk/norwich/about-us/news/2023/age-uk-norwich-and-uea-team-up-to-tackle-dangerous-dehydration-in-older-people/>

Drinking and the toilet

When you drink more you may find you need to visit the toilet more often too.

That's positive, it means you're drinking well, but for some people, getting to the toilet more often causes problems. This section offers you some ideas to help, so that you can keep drinking well and feeling well.

Did you know?

- **Adults of all ages** should drink at least 3½ pints (2 litres/70 fluid ounces) of fluid a day.
- **By not drinking enough, it's easy to become dehydrated.** Dehydration may affect your health and wellbeing. Some people find they get headaches and think less clearly. More serious problems may be constipation, urinary tract infections and increased risk of having to go to hospital.
- **It's normal to need the toilet** when you wake up and before and after eating.
- **It's normal for older people to go to the toilet 5-8 times** during the day and an additional once or twice overnight. Most people's bladders can hold around ½ pint of urine.
- **Drinking more can help bladder control.** Cutting down on drinks can irritate your bladder and make things worse!



Drinking and hydration for older adults

Practical advice to support you to drink well and prevent dehydration



Case Study

Ms F | 99yrs

- Unable to participate in the Hydration Project due to lack of mobility
- 12 weeks health coaching session, aiming to keep some basic movements
- She is immobile and is reliant on her carers who come in 3 x day
- She relies on the carers to dress/ wash her, cook her food & hoist her to the commode
- Ms F feels she must stick to certain drinking/eating times due to the changes in times her carers arrive & the need for the commode
- Although it's the bare minimum, she is still intaking fluids. Water with her medication and she keeps a flask of tea beside her chair.

Some tools

How much did you drink yesterday?

How to fill in the table:

Think about what you did yesterday. Now, thinking through the day remember what you drank, from first thing in the morning onwards. Write it in below.

When	What I drank e.g. Tea, milk, water	How much? Big mug, small glass	Proportion drunk All, half quarter
When I woke up			
With breakfast			
After breakfast			
During morning			
With lunch			
After lunch			
Afternoon			
With evening meal			
After evening meal			
Before bed			
During the night			
Drinks with pills			
Total			

Now add up the amounts using the volumes of your favourite cups and pictures on the next page. **Did you drink at least 3½ pints?**

09

Hydration myth-busting

It is not *that* important to drink fluids

False! Becoming dehydrated affects our health and is a common cause of hospitalisation. It can cause infections, constipation, tiredness and risk of falling.

Tea and coffee are dehydrating

False! Tea and coffee help keep us hydrated! If you find that caffeinated drinks irritate your bladder, try decaffeinated tea and coffee instead.

I don't feel thirsty, so I'm drinking enough

False! When we get older, we often don't feel thirsty, even when we are dehydrated. It's important to drink often and keep hydrated.

I can't drink *that* much water

You don't have to! All fluid counts (apart from some alcohol) - tea and coffee, milk, soup, fruit juice, smoothies - not just water.

If I drink more fluids, I'll have to go to the toilet more

False! Not drinking enough can irritate the bladder, meaning you need to go more urgently and frequently. You might need the toilet more often after starting to drink more, but this will settle in a few days.



06

Some tools

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Session 3

Client name or ID number

1 Have a drink together.

2 Fill out the table below to highlight the client's most important issues with drinking. Ask your client to read through the feelings and thoughts and choose whether it sounds like them or not. What is their key issue? What stops them drinking enough?

Feelings and thoughts	Sounds like me	Sounds a bit like me	Doesn't sound like me
I never feel thirsty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I struggle to get to the toilet on time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't see why I need to drink more	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't like the taste of water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can't be bothered to drink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I worry about going to the toilet more often	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I always have lots of wine (or other alcohol)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drinks are boring	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't want to keep getting up for drinks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I forget to drink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
My diet is fine, why do I need to drink more?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I don't like to worry my carer about drinks or the toilet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I drink enough already	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Actions

Discuss with your client:

Which is their key issue?

Which other elements 'sound like them'?

What changes will they make to increase their drinks intake?

Some tools

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Appendix B **How much in that cup?**

Remember to aim for:

Litres/millilitres: **At least 2l or 2000ml**
 Pints: **At least 3½ pints**
 Fluid ounces: **At least 70 fl oz**

								
Cup	Mug	Small glass	Glass	Coffee cup	Can	Large coffee cup	Bottle	Large glass
100ml	150ml	180ml	200ml	230ml	330ml	470ml	500ml	500ml
0.2pt	0.3pt	0.3pt	0.4pt	0.4pt	0.4pt	0.8pt	0.9pt	0.9pt
4 fl oz	5 fl oz	6 fl oz	8 fl oz	8 fl oz	8 fl oz	17 fl oz	18 fl oz	18 fl oz

More tools

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Appendix D Drinks menu

Hot drinks to try



Tea



Coffee



Hot water



Hot milk



Hot chocolate



Fruit/herbal teas



Malted milk drinks
(e.g. Horlicks, Ovaltine)



Beef tea
(e.g. Bovril, Oxo)



A cup of soup

Cold drinks to try



Water



Sparkling water



Flavoured water



Squash or cordial



Fizzy drinks



Iced tea or coffee



Milk



Fruit or
vegetable juice



Barley water.

Notes

Soups and stews, ice cream or ice lollies, jellies, custard or yoghurts might also help. Beers, ciders, ales, lager and alcohol-free wines can be counted as some of your fluids. Other alcoholic drinks don't count towards your total fluid consumption!

If you have a health condition (such as diabetes) you may need to limit some of the choices above (aiming for sugar-free drinks for example). Discuss this with your dietitian or health professional if you are not sure.

Case Study

Mr K | AGE: 77

- Client lives at home with his wife & has 24/7 care with 2 carers. He is mobile with A02 + frame. He's had 3 previous brain bleeds, causing a brain injury, where his speech, thought process & movement had been slowed.
- Over the last 12 weeks we have worked on his mobility, getting him into the position of using his frame, with fewer falls.
- At the end of May, Florence & Dr Lee came to see K & his wife to discuss the Hydration Project with them and show them their current Toolkit. Mr K took us all by surprise when he took a keen interest in looking at the 'drink menu' sheets and voiced his opinions.
- Since their last visit, Mr K has a new water bottle with a straw, along side a sheet that has the option of 'drink'. Which he is showing a keen interest in.
- Mr K is now in a specialised gym.

Top tips to drinking well

- ❖ **Favourite** - drink what you enjoy e.g. favourite drink, use favourite mug, cup or glass (alcohol in moderation)
- ❖ **Frequency** - have drinks often, even if it's a bit at a time, all adds up
- ❖ **Meals** - drink before, during and after every meal [especially before, during and after breakfast]
- ❖ **Share** - find opportunities to drink with others, drinking is social.
- ❖ **Avoid** – missing drinks when you eat or exercise
- ❖ **Proximity** – have a drink close by for when you need it
- ❖ **Medication** – drink plenty with your medications

Every sip counts!





Thankyou!

Acknowledgements



For all the studies, we would like to thank:

- The participants
- Care home managers and staff
- Steering & Advisory Groups
- Collaborators
- Funders (NIHR, Dunhill, UEA Impact Fund)



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Health Research**

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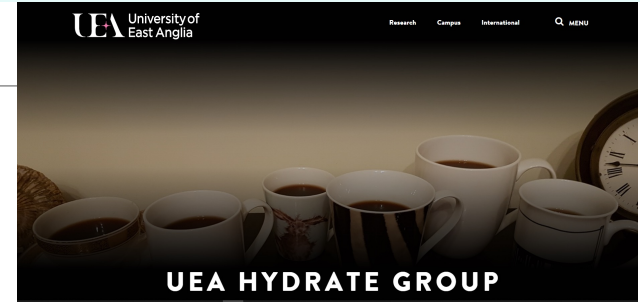
For full list of references & study details of our research, please visit our UEA people pages & websites



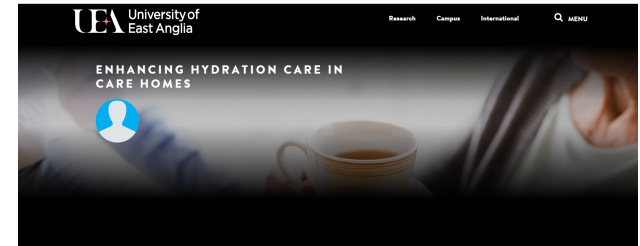
[Lee Hooper — University of East Anglia \(uea.ac.uk\)](https://www.uea.ac.uk/people/lee-hooper)



[Diane Bunn — University of East Anglia \(uea.ac.uk\)](https://www.uea.ac.uk/people/diane-bunn)



[UEA Hydrate Group - Groups and Centres](https://www.uea.ac.uk/research/groups-and-centres/uea-hydrate-group)



<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>

UEA Hydrate Group Blogs/news/media:

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 (Ellice's Work):
<https://bsgsigcarehomesblog.co.uk/>

2023: British Society Gerontology Care Homes Research Special Interest Group blog (DrinKit Brasil):
<https://bsgsigcarehomesblog.co.uk/>

2023: Age UK Work: [Age UK Norwich and UEA team up to tackle dangerous dehydration in older people and Age UK Norwich | Information & Advice](#)

Not a blog, but an article:

- 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/news/media:

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.hydrateforhealth.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-oe.nihr.ac.uk/ellice-parkinson>

2016: Thinking about Drinking (NIHR enrich), <https://enrich.nihr.ac.uk/blogpost/thinking-about-drinking/>.

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